

## Project Co-ordinator

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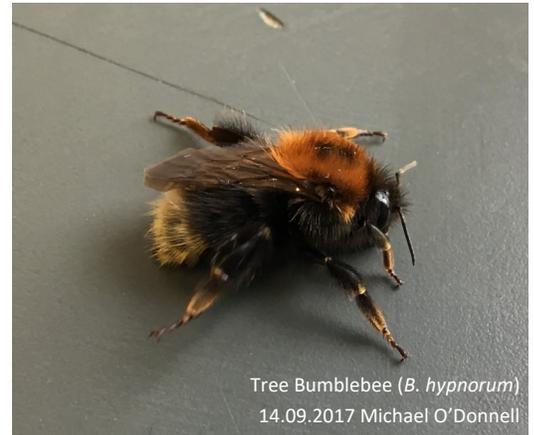
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# Welcome to our 2018 newsletter!

## Let's see what 2018 will bring with the arrival of the Tree Bumblebee.

The Irish Bumblebee Monitoring Scheme is now the largest it's ever been with 19 new recorders joining us in 2017 to grow the network to 102 transects across Ireland. With over 490 hours (!) of bumblebee monitoring successfully completed last year, this represents the largest contribution to date to our knowledge of these wonderful and important pollinators, and we cannot thank you enough for all your support.



After the rediscovery of the Southern Gypsy Cuckoo Bumblebee (*B. vestalis*) by Eddie Hill in 2014, it was great to see another of recorders discover a long-awaited first with Michael O'Donnell successfully spotting a Tree Bumblebee (*B. hypnorum*) in St. Stephen's Green last year. If it repeats the pattern of establishment and spread seen in Britain (ca. 50 km per year) here, it may well become a common sight across the island over the next 10 years. Reports of bumblebees nesting in bird boxes were one of the commonest first records of the species in new areas, so keep your eyes peeled!

2017 really was a game of two halves with the best May since the scheme's first year in 2012 with counts up by >50% above average, followed by a decent June and July (>10% above average). In contrast, August and September were the worst since 2012 with counts down by 30%! The latter half for the year really was cool, dull and particularly wet in the north and west compared to previous years, all of which combined to drag down both the numbers of bees recorded and the number of days recorders could complete their walks.

Overall, since 2012 the number of bumblebees flying in Irish landscape has declined by almost 4% per year with 2017 being the worst year so far. This estimate is based on the past six years and although there's still a lot of variability both year-to-year and across species, it is of significant concern. More detail is provided on pages 6 and 7, but it's worth reiterating that without everyone in the monitoring scheme walking their transects once per month, we simply would not know what was happening with our wild bee populations. It is very much through your efforts we're gathering the evidence needed to ground-truth the actions of the All-Ireland Pollinator Plan and secure the future of pollinators in Ireland.

## 2017 workshops and field meetings

An enormous thank you to everyone who hosted and attended all our workshops and field meetings last year, only some of which are shown below. Our Annual Recorder's Event in Belmullet is particularly noteworthy in that along with 40 brave souls and Dave Suddaby of BirdWatch Ireland we confirmed the presence of the Great Yellow Bumblebee (*B. distinguendus*) across two sites (along with *B. muscorum* and *B. ruderarius*!) and Dr. Dara Stanley discovered a new area for the species south of Bunnahowen.



Annual Recorders Event in Belmullet Co. Mayo, Liam Lysaght 29/07/2017



Sharon Heffernan and the very active Emly Tidy Towns, Co. Tipperary 29/07/2017



South East Cork Area Development Company training day in Middleton, Co. Cork 24/07/2017

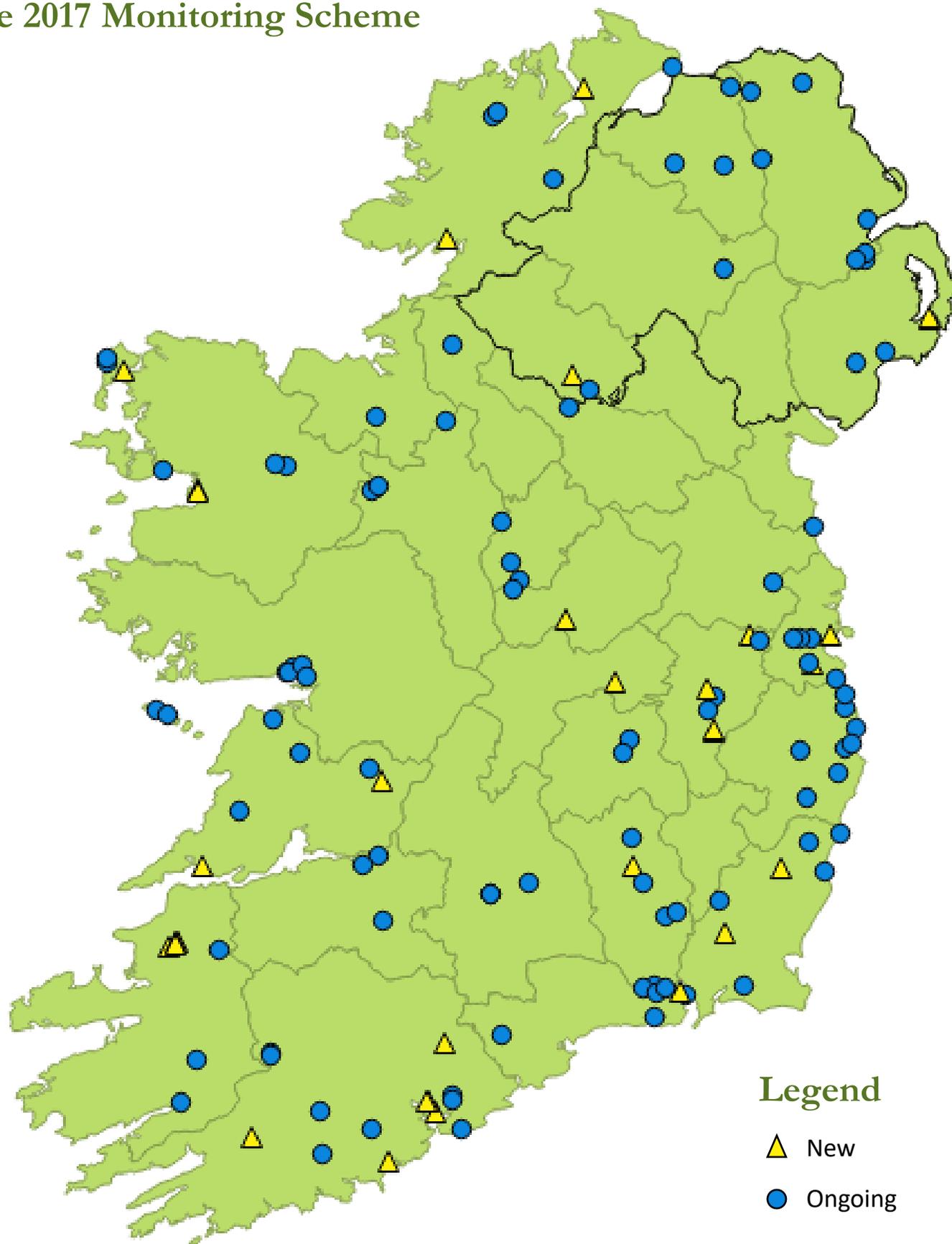


Máire Léime agus an Cárde Éanlaithe Chorca Dhuibhne, Dingle Co. Kerry 08/04/2017



Brian Gaynor and the Heart of the Glens Landscape Partnership, Glennariff Co. Antrim 13/08/2017

# New and ongoing bumblebee transects in the 2017 Monitoring Scheme



## Legend

- ▲ New
- Ongoing

2017:

102 transects

79 recorders

883 km walked

491 hrs monitoring

12,696 bumblebees

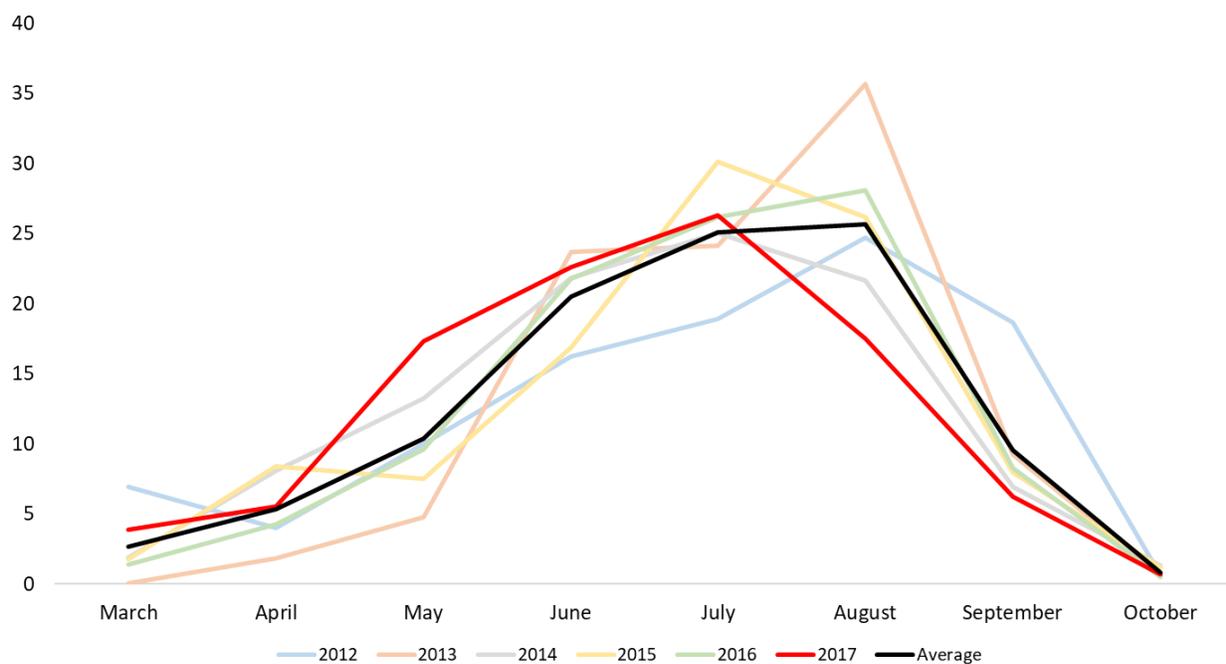
14 species



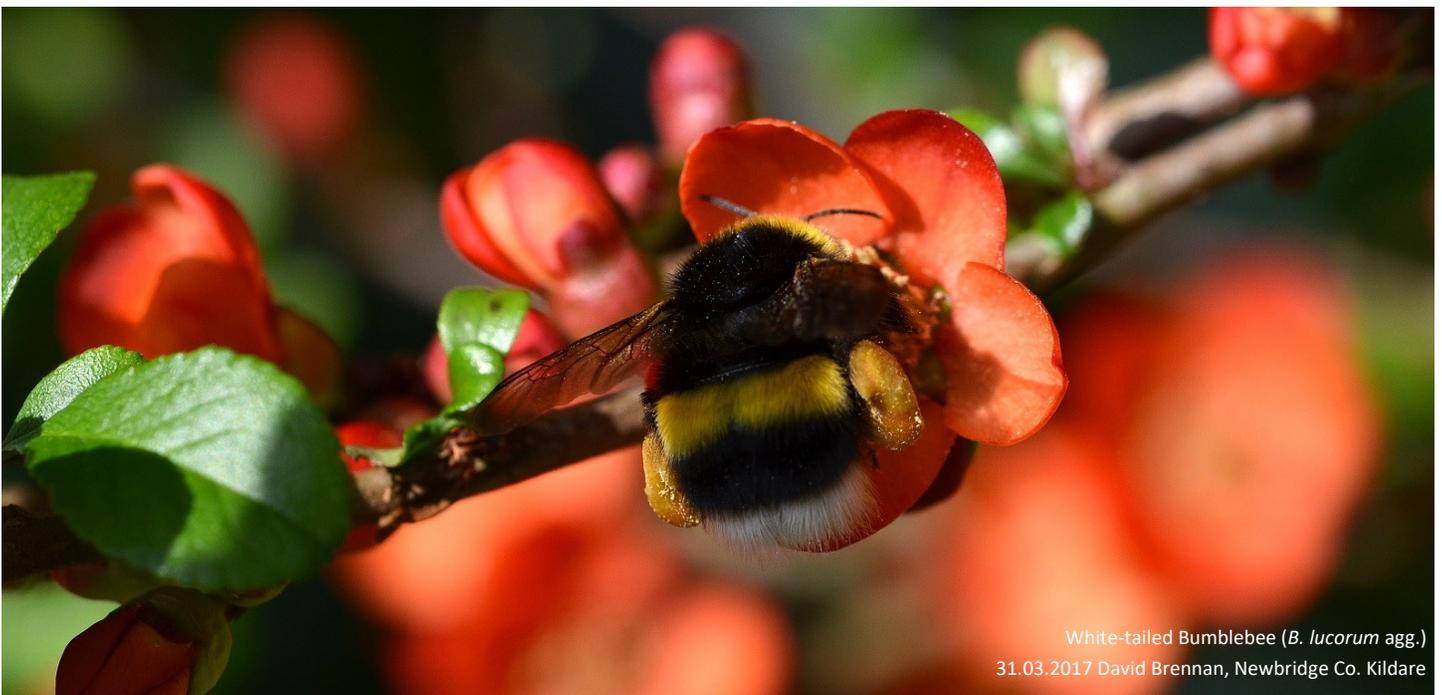
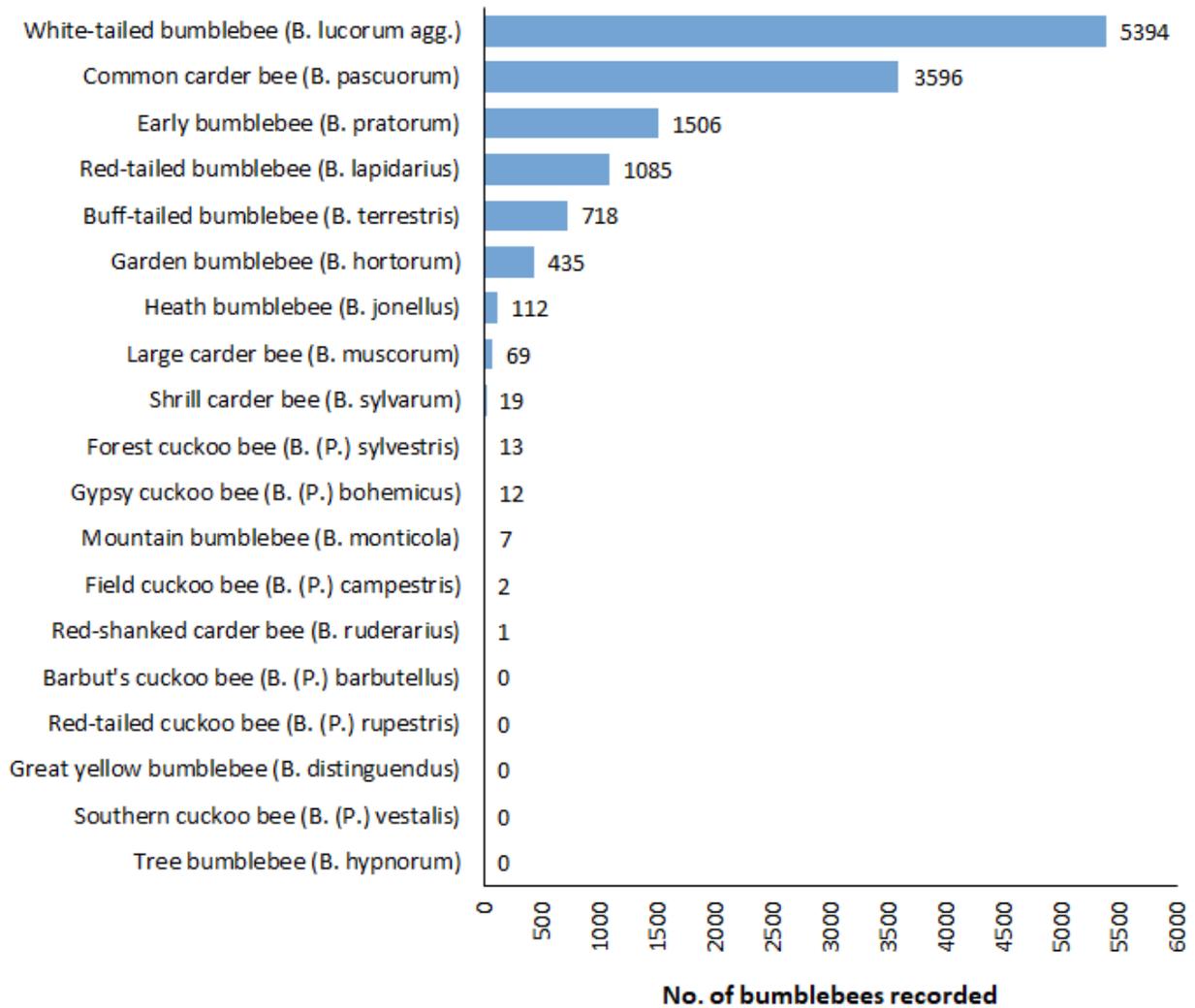
Common Carder Bee (*B. pascuorum*)  
27.03.2017 Bernie Gervin, Coal Island, Co. Tyrone

Year	2012	2013	2014	2015	2016	2017
Total transects	36	67	90	93	100	102
Total transect visits	207	320	415	474	495	521
Median visits per transect	6.0	5.0	5.0	6.0	5.5	6.0
Total bumblebee abundance	4,234	13,190	11,832	11,900	15,436	12,969
Median abundance per transect per visit	10	13	15	11	12	13
Top 25% transects, min. abundance per transect per visit	24	45	33	28	36	30
Bottom 25% transects, max. abundance per transect per visit	4	4	6	4	4	5

**% of Bumblebees Recorded Per Month**



# Species summary for 2017



White-tailed Bumblebee (*B. lucorum* agg.)  
31.03.2017 David Brennan, Newbridge Co. Kildare

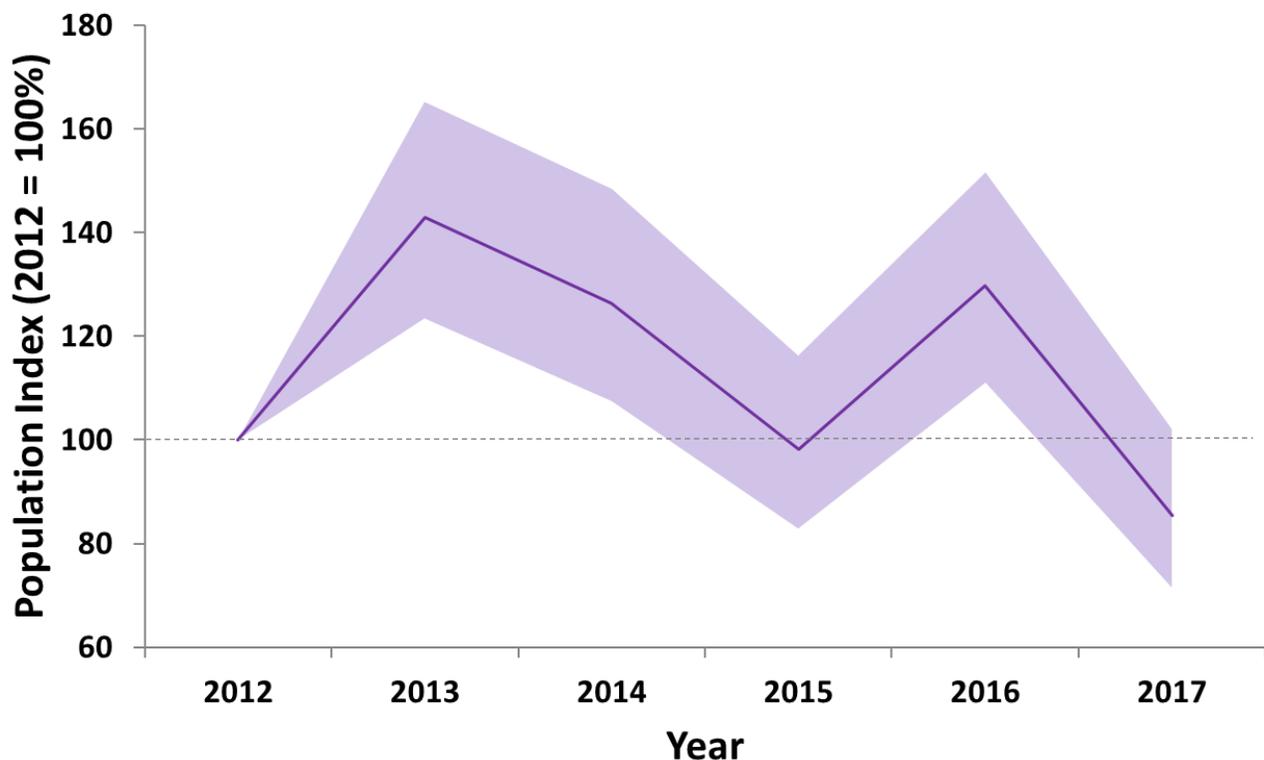
## Irish bumblebee population trends 2017

As you'll see from the table on page 4, the monitoring scheme is now the largest it's ever been with 19 new recorders joining last year and 102 transects successfully completed. When the numbers are compiled at the end of the season it's humbling to see how much effort everyone is willing to give to support bumblebee monitoring and conservation. In 2017 we collectively walked 883.2 km over 491 hr 19 min and counted 12,969 bumblebees across 14 species. Special mention should be made to those recorders who have given so much of their time in supporting monitoring each year, so this year I'll highlight the top 10 who walked the furthest in 2017 (and are exemplars in how citizen science can benefit your health, wellbeing and bees too)!

As mentioned on the front page, 2017 started so promisingly and as you can see from the graph on page 4, we had an 'early' recording season in comparison to previous years with May, June and July all being above average for the % of total records in that year e.g. we would typically get 10% of all our records from the year in May, but last year it was 17%. In contrast, across August and September we normally record 35% of all bumblebees for the year, whereas in 2017 it was only 24%. As in previous years, we can account statistically for the different number of transects and walks per transect across years to estimate changes in the number of bumblebees flying in the Irish landscape.

The "multispecies index", presented below illustrates these estimates and the level of statistical confidence around our estimates and is based on the eight species where we have sufficient information to accurately assess changes. As expected for insects, there are large fluctuations year-to-year but whereas in previous years there was no obvious trend, the bumblebee populations recorded in 2017 were the lowest they've been. Consequently, the current overall trend from 2012-2017 is a year-on-year decline of 3.7% (with a 95% confidence interval around our estimate being  $\pm 3.1\%$ ). Given the variability around our estimate, we have to be cautious about not crying wolf, but it is telling that we can be detecting moderate declines in widespread species after only six years.

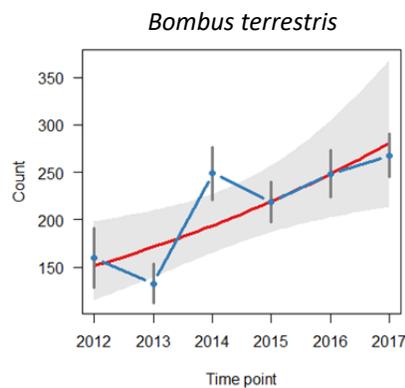
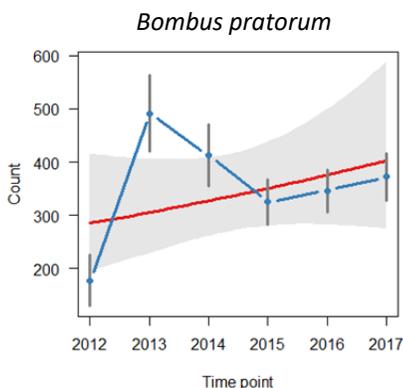
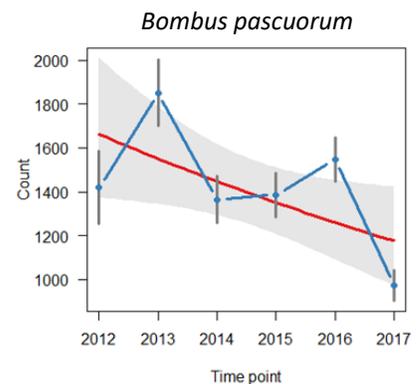
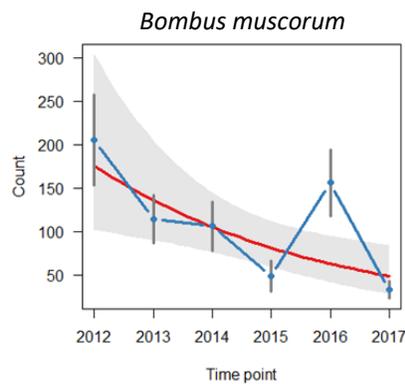
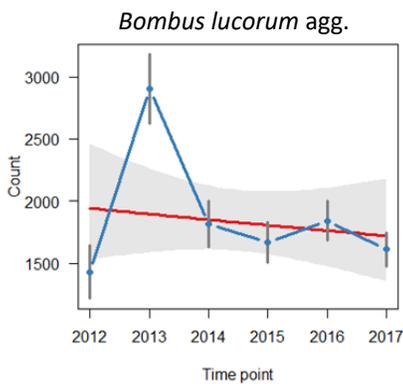
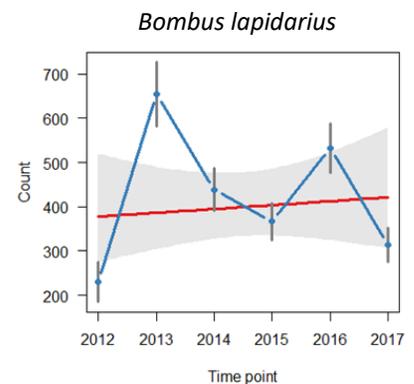
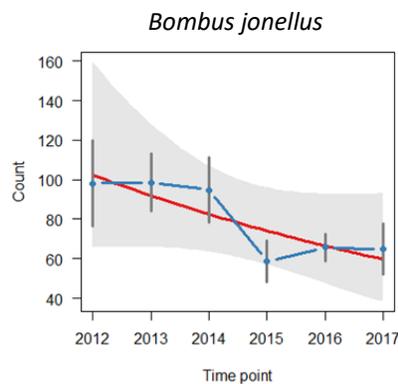
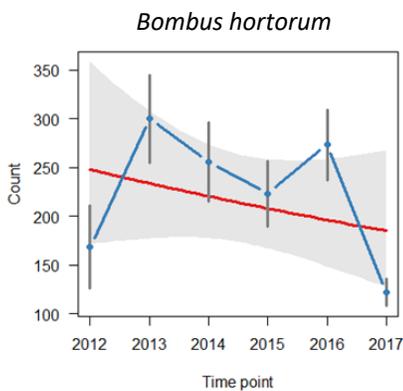
Out of the eight species analysed, three had their worst year since 2012 (*B. hortorum*, *B. muscorum* and *B. pascuorum*) and *B. lapidarius* had its 2<sup>nd</sup> worst year. There were no marked changes in either *B. jonellus* or *B. lucorum* agg. on 2016, whereas both *B. pratorum* and *B. terrestris* experienced increases. This change in fortune, both good and bad, across species has meant their status has also changed: *B. lapidarius* was moderately increasing and is now 'uncertain', *B. jonellus* was declining and is now uncertain, and *B. pascuorum* was uncertain and is now moderately declining.



# Irish bumblebee population trends 2017

Species	Change 2012-2017	Statistical Confidence
Buff-tailed bumblebee ( <i>Bombus terrestris</i> )*	Moderate Increase (> +5% p.a.)	95%
Large carder bee ( <i>Bombus muscorum</i> )	Strong Decline (> +5% p.a.)	95%
Common carder bee ( <i>Bombus pascuorum</i> )	Moderate Decline (< +5% p.a.)	95%
Early bumblebee ( <i>Bombus pratorum</i> )	Uncertain (> ±5% p.a.)	
Garden bumblebee ( <i>Bombus hortorum</i> )		
Heath bumblebee ( <i>Bombus jonellus</i> )		
Red-tailed bumblebee ( <i>Bombus lapidarius</i> )		
White-tailed bumblebee ( <i>Bombus lucorum</i> agg.)		

\* Based on queens



# Upcoming workshops and events in 2018

## Annual Recorders Field Meeting, Dysart, Co. Roscommon 25-26<sup>th</sup> August

(Hotel in either Ballinasloe or Athlone to be confirmed).

Given the success of our Great Yellow Bumblebee (*B. distinguendus*) hunt last year, we're focussing on another of our endangered bumblebee species, the Shrill Carder Bee (*B. sylvarum*) on the rich calcareous grasslands adjacent to the Shannon Callows and along eskers in southern Co. Roscommon. For those who also wish to record butterflies there are on average 25 out of the 35 Irish species found there too, but we'll have a butterfly-specific recorders event on July 28-29th in Wexford (details will be in the Butterfly Monitoring Scheme Newsletter and website in April). The goal of the workshop is to highlight the plight of this enigmatic bumblebee and establish more transects targeting this species. On the day, we'll have introductory talks on its biology and ecology in Ireland, followed by a walk in an area with a known population and then a 'team challenge' to locate the bees at sites where it was known and areas where it has yet to be recorded. As always, you're welcome to join us for a meal in the evening in the hotel and take the opportunity to socialise afterward. The following morning on Sunday 26th will then be a general recording day for both bumblebees and butterflies finishing up at lunchtime. The meeting is free to attend but spaces will be limited, so if you'd like to provisionally book your place please contact me (details on the front page) specifying which days (Saturday/Sunday) you'd like to attend and whether you'd like to join us for dinner on Saturday evening.

## Monitoring Scheme Workshops

There will be a limited series of workshops on bumblebee identification and monitoring in 2018 as we'll also be providing more workshops to partners on the All-Ireland Pollinator Plan such as local authorities, the Office of Public Works and the Royal Society for the Protection of Birds. On the day we'll cover all aspects of the monitoring scheme including species identification, how to monitor bumblebee populations and how to use our online data recording forms. These workshops are weather permitting, so please keep an eye on the [News & Events](#) section of our website and social media for any updates



Heath Bumblebee (*B. jonellus*)  
05.06.2017 Karina Dingerkus, Collanegy Co. Sligo



Large Carder Bee (*B. muscorum*)  
28.05.2017 Fionn Moore, Faunkill, Co. Cork

County	Location	Date	Time	Booking Information
Offaly	Tullaghmore, Scoil Mhuire, Kilcruttin	14 <sup>th</sup> April	11:00 – 16:00	Ray Carroll, <a href="mailto:raycarroll1948@gmail.com">raycarroll1948@gmail.com</a>
Meath	Navan, venue TBC	28 <sup>th</sup> April	11:00 – 16:00	Tomás Murray
Roscommon	Castlecoote, St. Ciaran's Community Centre	9 <sup>th</sup> June	11:00 – 16:00	Tomás Murray <a href="mailto:tmurray@biodiversityireland.ie">tmurray@biodiversityireland.ie</a>