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Welcome to our 2019 newsletter!

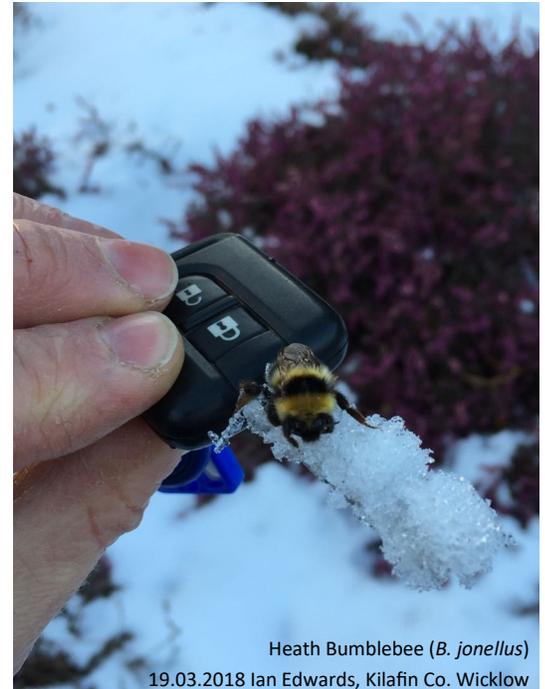
Tracking changing bumblebee populations has never been more important.

With the recent publication of a global review on the conservation status of insects concluding that 41% of species are now in decline and 31% have declined sufficient to be considered threatened, there has been justifiably a lot of interest in how we're monitoring the status of insects in Ireland. The case simply is that without the efforts of our wonderful network of citizen scientists supporting the Irish Bumblebee Monitoring Scheme and the other schemes in the Data Centre, we would be largely ignorant of how the populations of this vitally important group of insects are changing.

The Irish Bumblebee Monitoring Scheme continue to grow and we now have 76 recorders walking 106 transects across the island of Ireland. Clearly, the timing and extremes in weather last year did not suit many species with counts across the board down by an average of 25% on 2017 and 17% since 2012. Surprisingly, this overall loss was driven by declines in our common and widespread species, such as Common Carder (*B. pascuorum*), White-tailed (*B. lucorum* agg.) and Buff-tailed (*B. terrestris*) bumblebees.

It was not all bad news with some of our more 'variable' species such as the Heath Bumblebee (*B. jonellus*) and the Red-tailed Bumblebee (*B. lapidarius*) populations increasing by 4-18% on 2017, with rarer species such as the Forest (*B. sylvestris*) and Gypsy (*B. bohemicus*) cuckoo bumblebees being detected in greater numbers. In addition, the latest arrival to our shores, the Tree Bumblebee (*B. hypnorum*), looks very likely to be successfully breeding in Ireland with confirmed sightings of a male recorded in University College Dublin last June and freshly emerged queen sighted in Belfast just this week.

Finally, a sincere thank you to everyone for making this project such a success. Without your efforts in walking your transects once per month, double-checking your IDs, sending in photos and ultimately submitting your records to the Data Centre, we simply would lack the evidence-base to protect our pollinators.



Heath Bumblebee (*B. jonellus*)
19.03.2018 Ian Edwards, Kilafin Co. Wicklow

2018 workshops and field meetings

An enormous thank you to everyone who hosted and attended all our workshops and field meetings last year. It's fantastic to see more community groups and public bodies requesting workshops, particularly when establishing monitoring in parallel with taking on actions in the All-Ireland Pollinator Plan. Our Annual Recorders' Event in 2018 was focused on the Essex Skipper butterfly, but we did pick up new sites for Large Carder (*B. muscorum*) and Heath Bumblebees (*B. jonellus*) too!



Annual Recorders Event in southern Wexford, Liam Lysaght 29/07/2018



Tullaghmore Tidy Towns, Scoil Mhuire, Kilcruatin, Co. Offaly



St. Columban's Dalgan Park, Navan, Co. Meath 28/04/2018

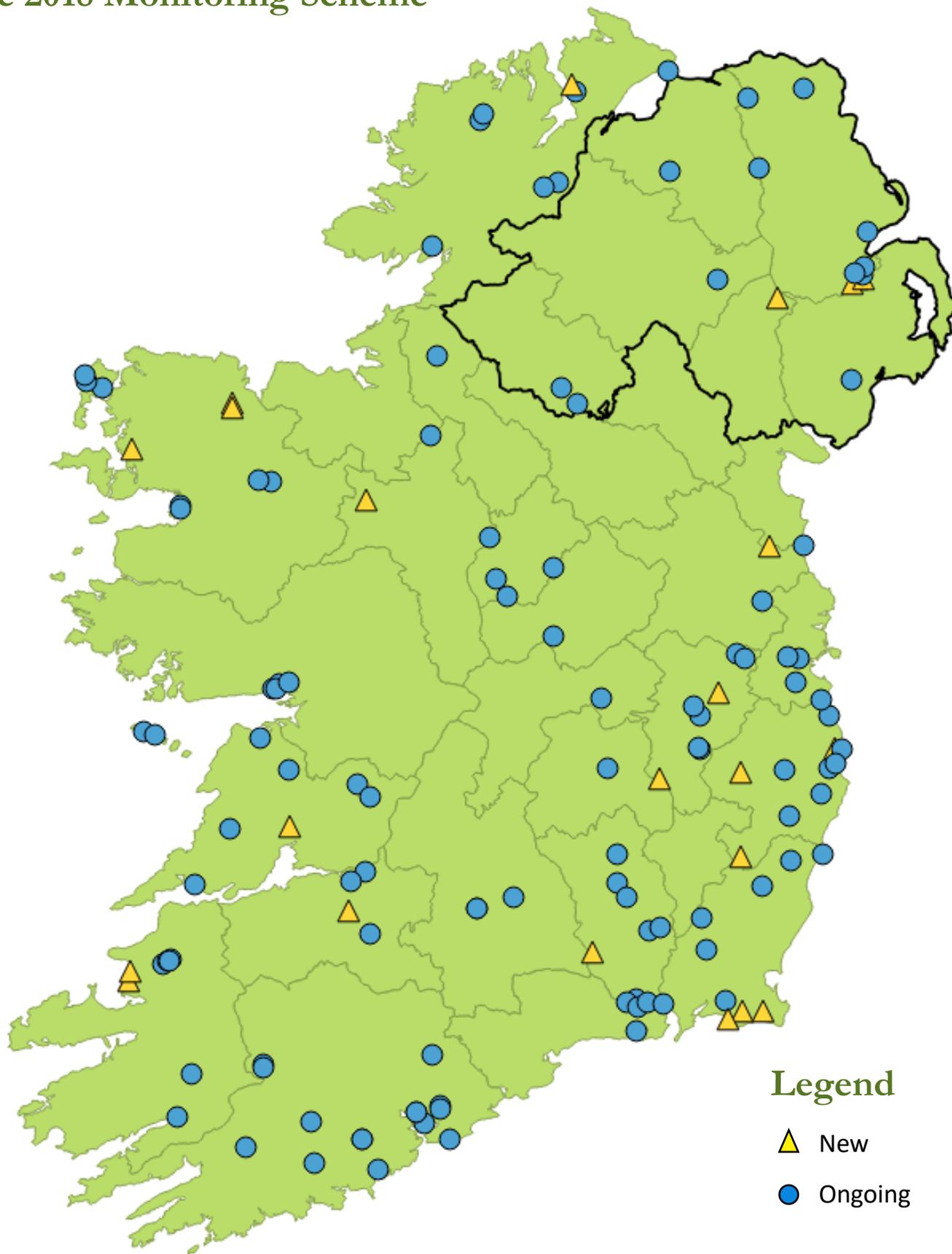


Office of Public Works staff, Phoenix Park Visitor Centre, Dublin
26/04/2018



Castlecoote Tidy Towns, Castlecoote, Co. Roscommon 09/06/2018

New and ongoing bumblebee transects in the 2018 Monitoring Scheme



Legend

- ▲ New
- Ongoing

2018:

106 transects

76 recorders

935 km walked

538 hrs monitoring

10,614 bumblebees

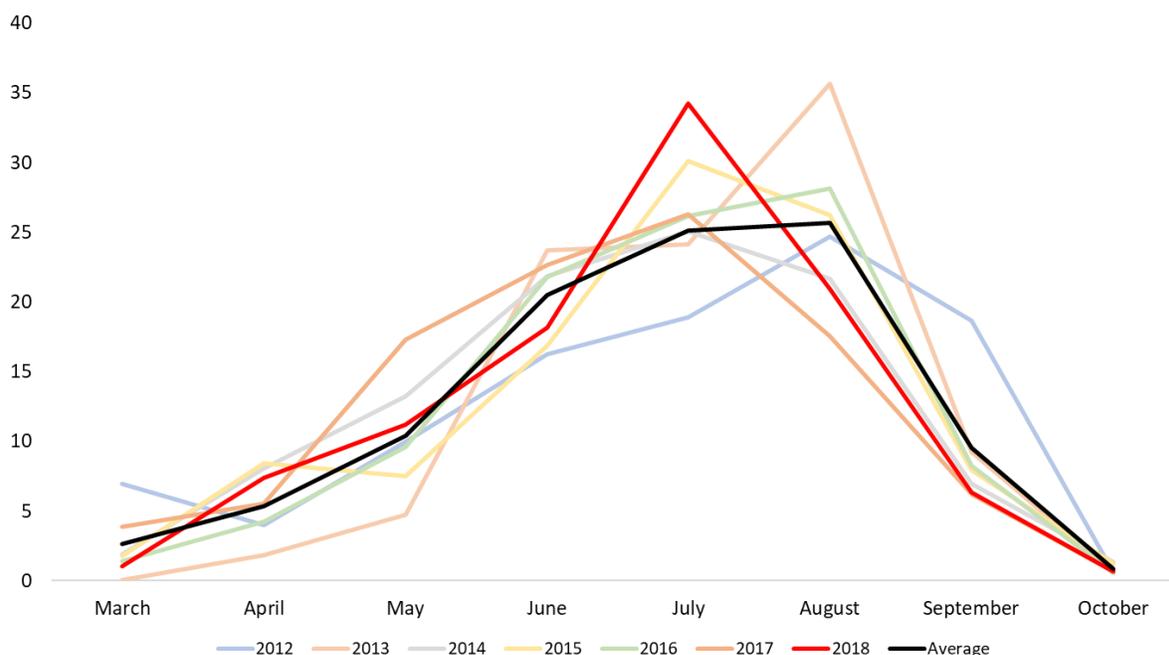
16 species



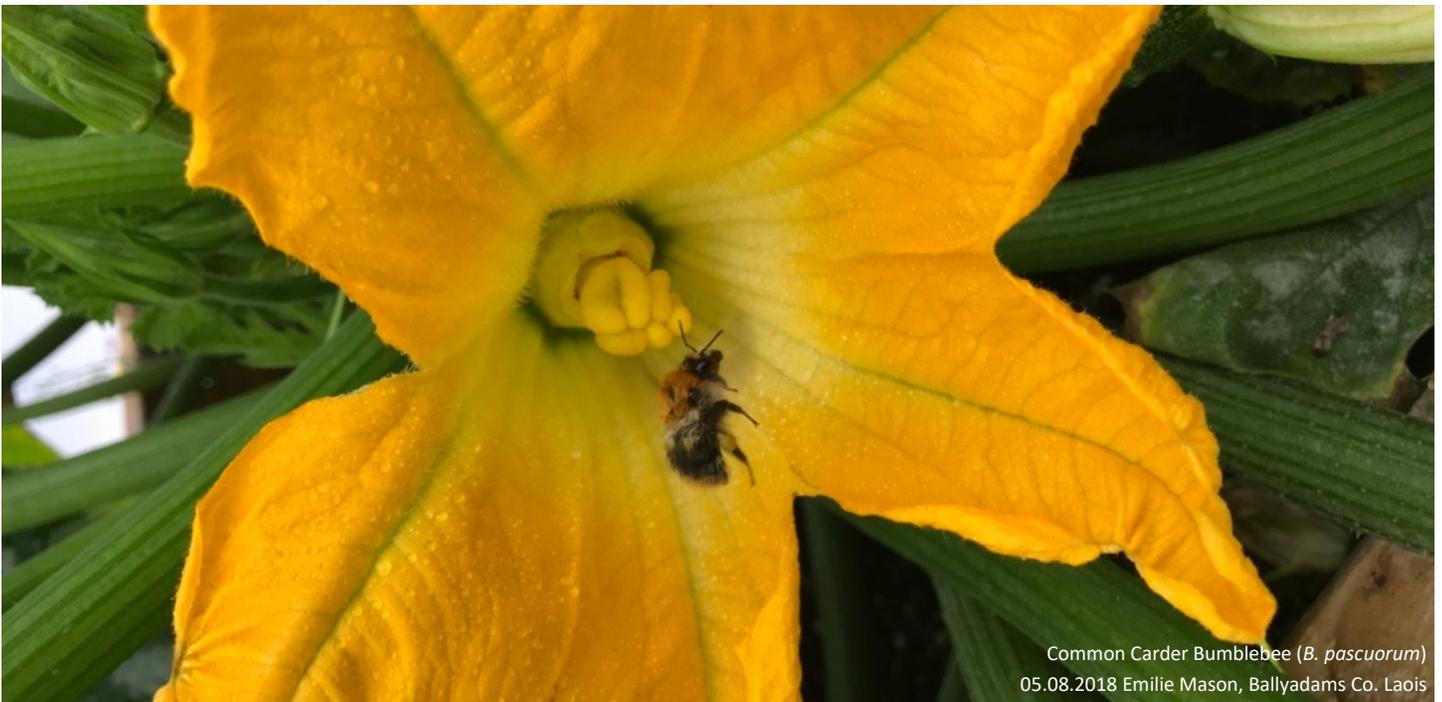
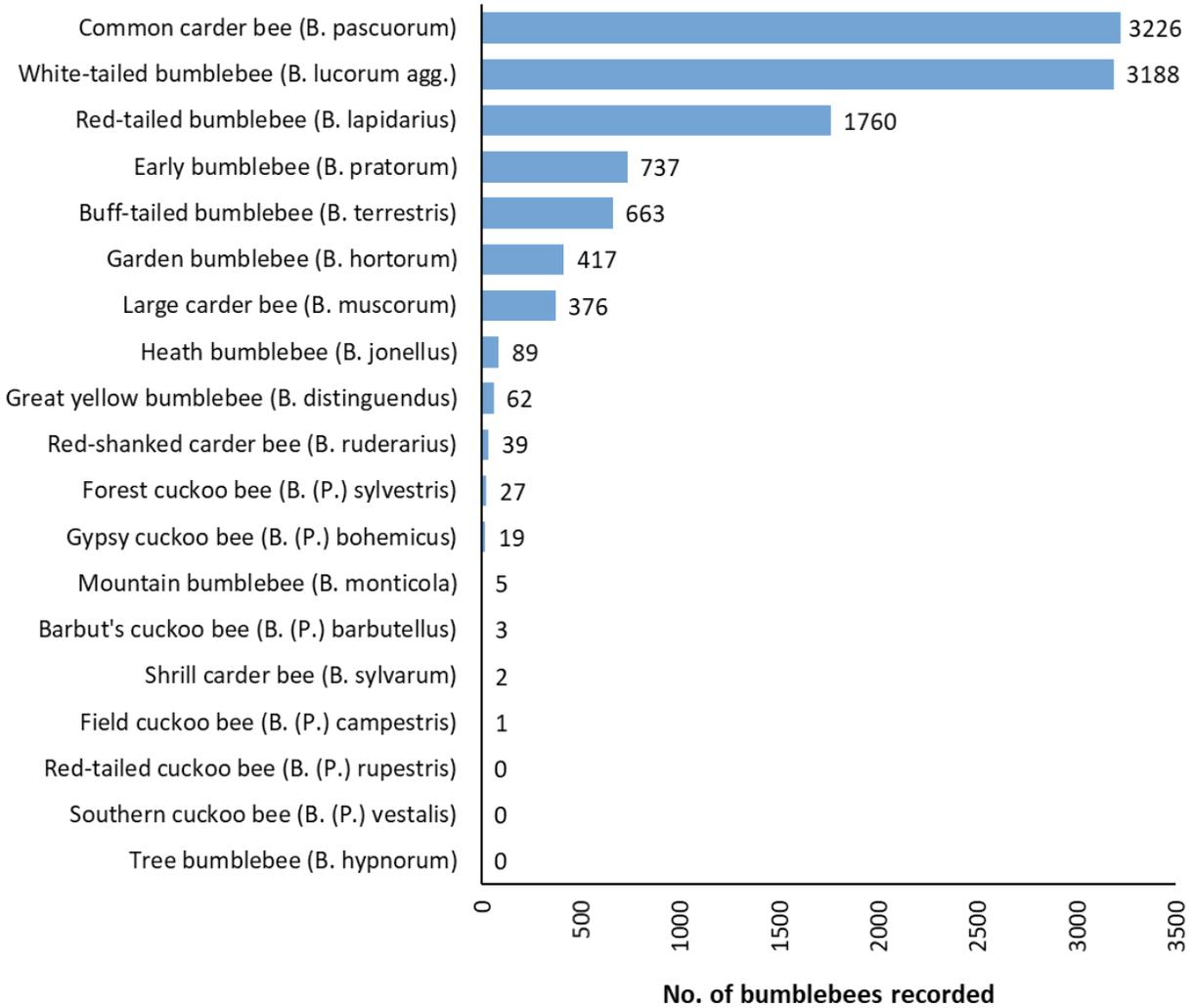
Red-shanked Carder Bee (*B. ruderarius*)
22.08.2018 Rodney Daunt, Fountainstown Co. Cork

Year	2012	2013	2014	2015	2016	2017	2018
Total transects	36	67	90	93	100	102	106
Total transect visits	207	320	415	474	495	521	553
Median visits per transect	6.0	5.0	5.0	6.0	5.5	6.0	5.5
Total bumblebee abundance	4,234	13,190	11,832	11,900	15,436	12,969	10,614
Median abundance per transect per visit	10	13	15	11	12	13	9
Top 25% transects, min. abundance per transect per visit	24	45	33	28	36	30	27
Bottom 25% transects, max. abundance per transect per visit	4	4	6	4	4	5	6

% of Bumblebees Recorded Per Month



Species summary for 2018



Common Carder Bumblebee (*B. pascuorum*)
05.08.2018 Emilie Mason, Ballyadams Co. Laois

Irish bumblebee population trends 2018

Our project continues to grow with now 76 recorders monitoring bumblebee populations across 106 sites. As always, 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 of our work: in 2018 we collectively walked 935 km over 538 hrs counting 10,614 bumblebees across 16 species!

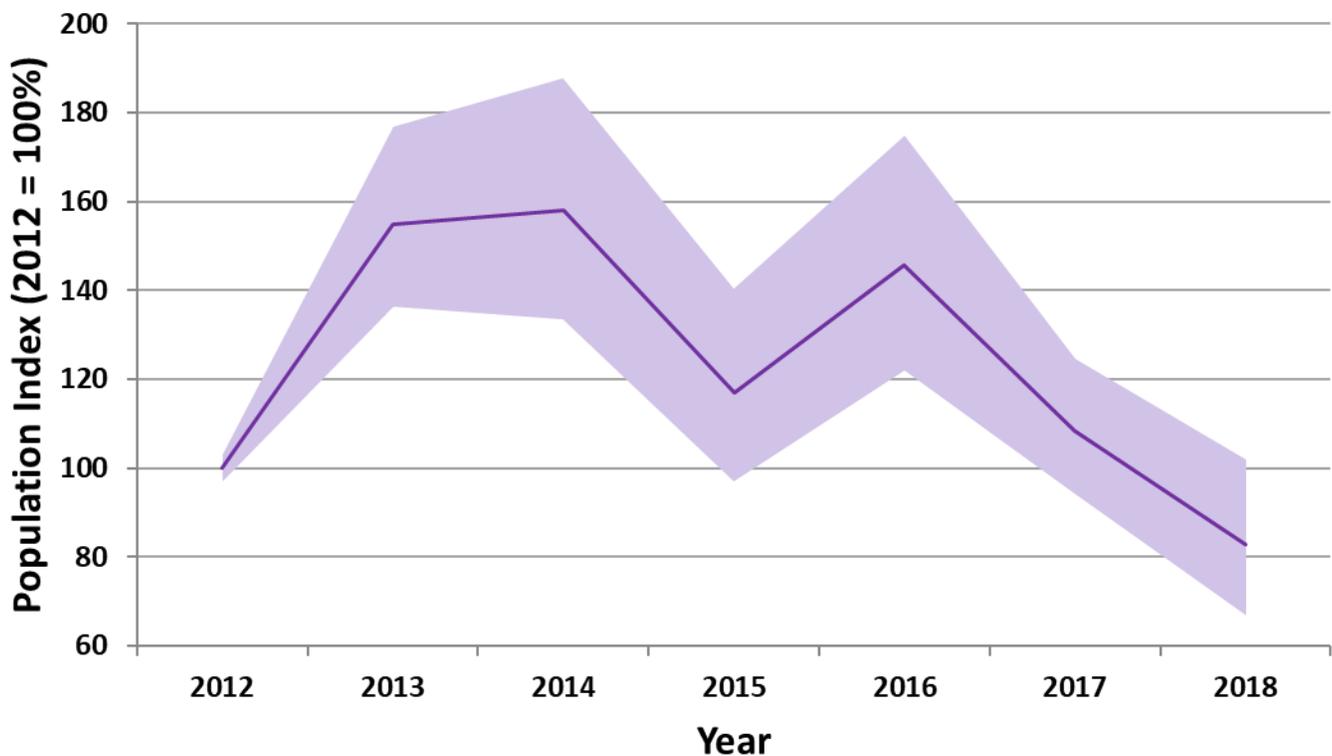
As mentioned on the front page, 2018 started so ominously with the 'Beast from the East' dominating all from late February until mid-March with the thaw in some counties taking much longer than expected. Therefore, it's not surprising that most recorders' counts in March were 50% below average for the month, but populations did bounce back in April continuing on to have a middling May and June (see graph on page 4).

The heatwave in late-June into July did clearly benefit bumblebee populations, initially at least, with over one-third of all the bees recorded across the year being observed in July alone (the average would be closer to 25%). However, the drought conditions had a significant impact on the availability of pollen and nectar in rural areas with many reports across sites of multiple species of flowers being present but 'dried up'. In contrast, urban and suburban areas were seemingly less affected, presumably due to greater water retention and/

or people continuing to water their flowers despite the hose-pipe ban! Consequently, counts across August and September were markedly below average across most sites: this is of particular concern given this is time of year queens desperately need resources before going into hibernation across winter.

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. Unfortunately, we've now had two poor years in succession and resulting in **an overall loss of 16.6% across populations since 2012**. Consequently, the current overall trend from 2012-2018 is a **year-on-year decline of 5.3%** (with a 95% confidence interval around our estimate being $\pm 2.9\%$).

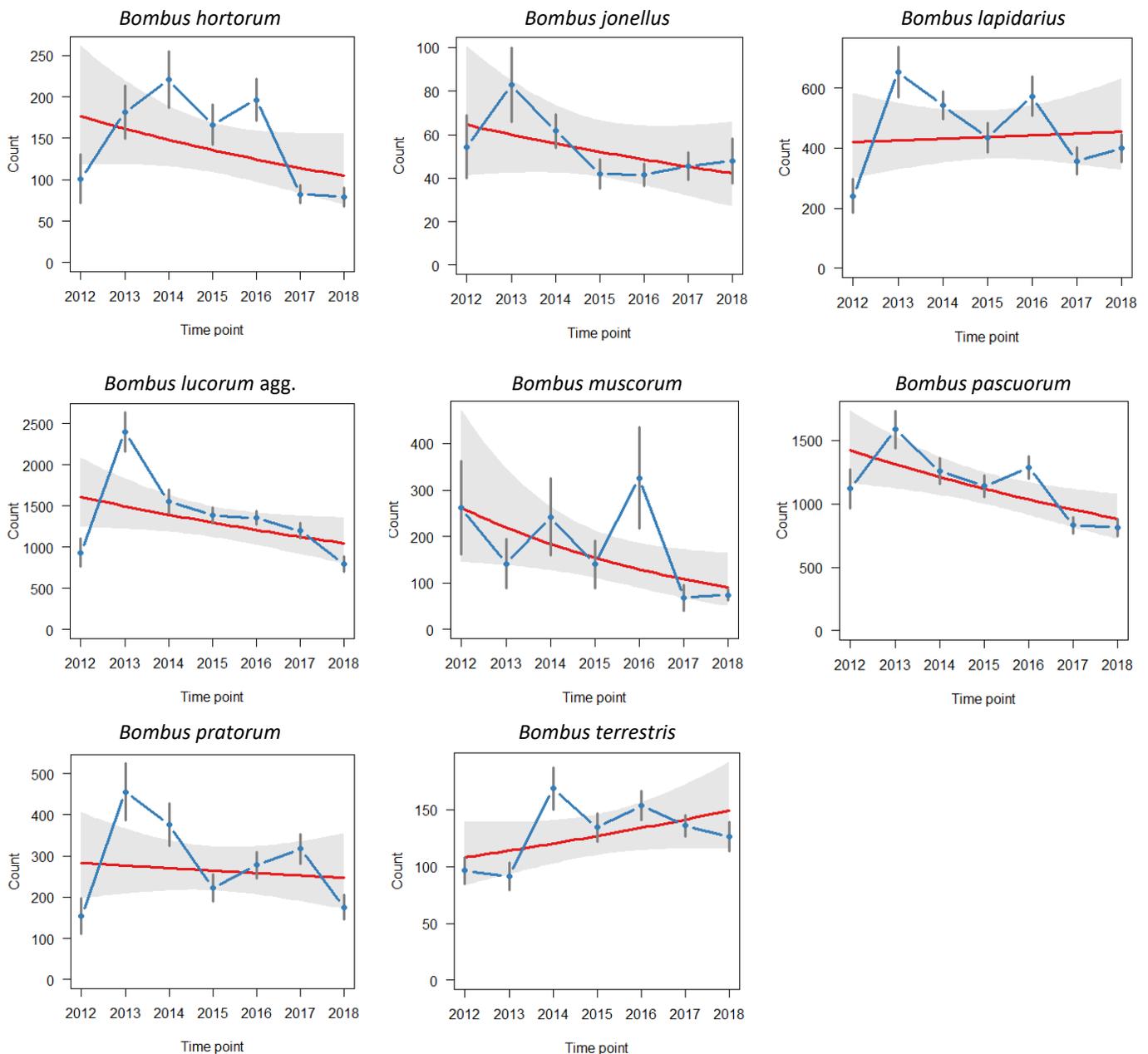
2018 has been unique in that for the 1st time, the Common Carder (*B. pascuorum*) was recorded in greater numbers than the White-tailed bumblebee (*B. lucorum* agg.). The former is in ongoing decline (-7.6% p.a.) and last year happened also to be a bad year for the latter. Even for the previously increasing Buff-tailed bumblebees (*B. terrestris*), it has also experienced declines over the past two years and is now of 'uncertain' status. Many lost out on walking in March last year due to the bad weather and it had knock-on consequences for our analyses. Therefore, **the one key thing we can all do to minimise uncertainties in trends is by aiming to get out and walk each month**.



Irish bumblebee population trends 2018

Species	Change 2012-2018	Statistical Confidence
Large carder bee (<i>Bombus muscorum</i>)	Moderate Decline (< +5% p.a.)	95%
Common carder bee (<i>Bombus pascuorum</i>)		95%
Buff-tailed bumblebee (<i>Bombus terrestris</i>)*	Uncertain (> ±5% p.a.)	
Early bumblebee (<i>Bombus pratorum</i>)		
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 2019

Annual Recorders Field Meeting, Burren, Co. Clare, 24-25th August (Hotel to be confirmed)

Given the success of our Great Yellow Bumblebee (*B. distinguendus*) hunt, we're focussing on another of our endangered bumblebee species the Shrill Carder Bee (*B. sylvarum*) on the rich calcareous grasslands throughout the Burren. The goal of the weekend is to highlight the plight of this enigmatic bumblebee, help everyone develop their 'eye' for the species and establish more transects targeting this species. On the day we'll have introductory talks on its biology and ecology by Michelle Larkin, a PhD. student who is rapidly becoming Ireland's expert on the species, followed by walks in areas with a known population, then a 'team challenge' to locate bees at particular sites. 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 Sunday morning 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 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 2019 as we'll also be providing more workshops to partners on the All-Ireland Pollinator Plan such as the Environmental Protection Agency and Dún Laoghaire-Rathdown County Council. 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.



Shrill Carder Bee (*B. sylvarum*)
John Breen



Large Carder Bee (*B. muscorum*)
07.05.2018 Rosaleen Dwyer, Tallaght Co. Dublin

County	Location	Date	Time	Booking Information
Cork	Ballyvourney, Áras Abán	13 th April	11:00 – 16:00	Tomás Murray tmurray@biodiversityireland.ie
Kerry	Sneem, Sneem Digital Hub	14 th April	11:00 – 16:00	Tomás Murray tmurray@biodiversityireland.ie
Kildare	Newbridge, Newbridge Library	27 th April	11:00 – 16:00	Tomás Murray tmurray@biodiversityireland.ie
Antrim	Cushendun, National Trust	2 nd May	11:00 – 16:00	Aaron Kerr Aaron.Kerr@nationaltrust.org.uk
Fermanagh	Enniskillen, CAFRE	3 rd May	11:00 – 16:00	Julie Corry julie.corry@fermanaghomagh.com
Down	Minnowburn, National Trust	4 th May	11:00 – 16:00	Aaron Kerr Aaron.Kerr@nationaltrust.org.uk