

Lesson Plan 5: Are pollinators in trouble?



Objectives:

In this lesson, students will:

- learn about declines in pollinating insect populations
- how monitoring the number of different insects can tell us how they're doing year on year

Please refer to our School Resources for background information.

See www.pollinators.ie/schools

A lot of our hard-working bees are in danger of disappearing forever (becoming extinct). This is mainly due to a lack of food - wildflowers in our landscapes in recent decades.

The use of chemicals also impacts their health.

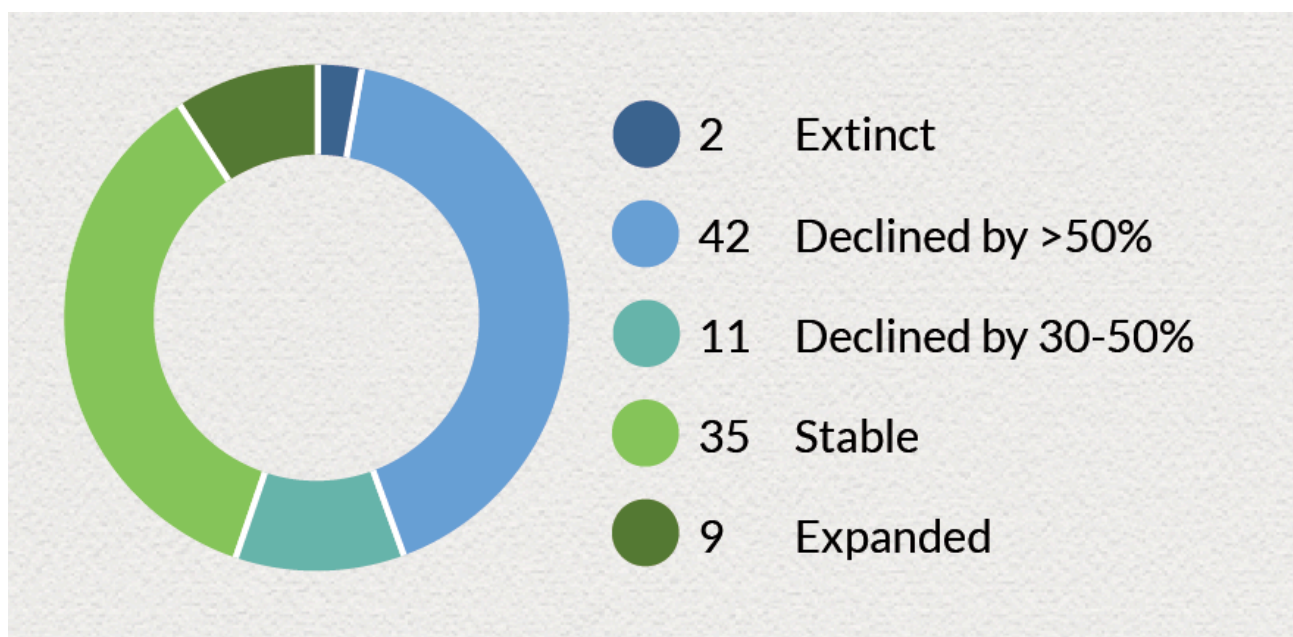
We need to work to protect them or they may not be around for much longer.





More than half of Ireland's 98 wild bee species have gone through huge declines since 1980.

Two species have already gone extinct and one-third are threatened with extinction in Ireland!



Discussion Activity for Junior Infants to 3rd Class:

With your Imaginary garden that you made from Lesson 4, play again and discuss what would happen if you remove the bee's home (nesting cavities for solitary bees or long grass for bumblebees), or food sources (flowers).

Take away some of the flowers = less food

Add in more flowers = more food for bees = more bees



Activity for all classes:

Design a poster to help to tell people that bees are in trouble and need our help

Examples:



Other messages you might like to include in your posters:

LET DANDELIONS BLOOM

Dandelions provide vital food for hungry bees in spring.



REDUCE MOWING

Mow every 6 weeks from mid-April to allow flowers like clover to grow and provide food.



DON'T SPRAY

The overuse of herbicides is making it difficult for pollinators to find enough flowers to feed from.



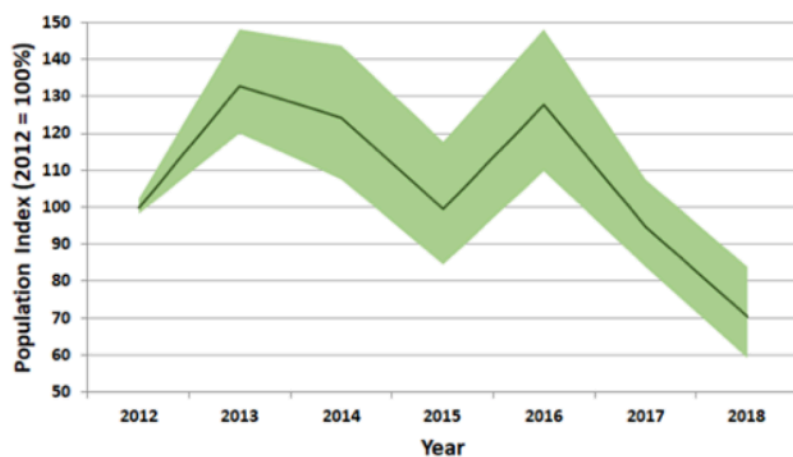
All-Ireland
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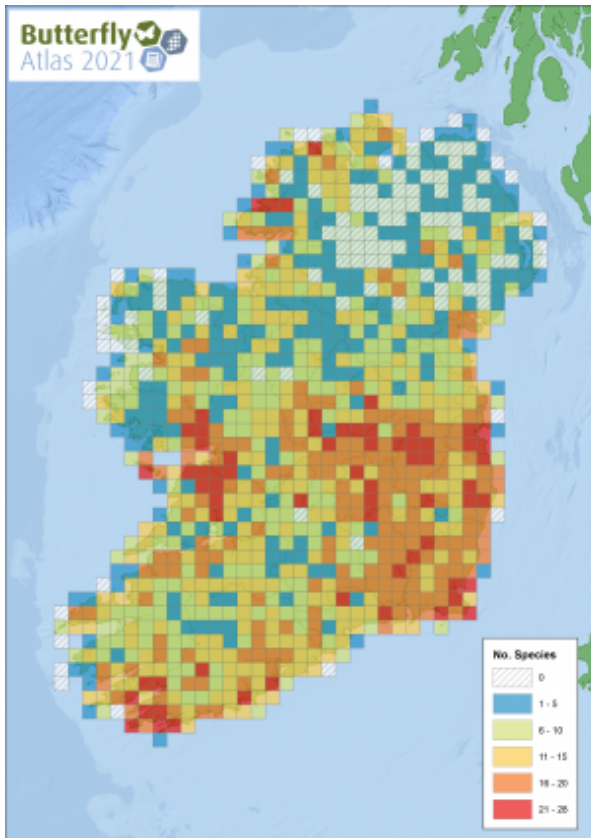
Activity for 5th Class to 6th Class:

Using the sample data sets below, plot the changes in populations over a number of years.

Draw charts to represent your results



Irish Bumblebee Monitoring Scheme multi-species index of Irish bumblebee populations 2012-2018 derived from eight species. The green line is the smoothed trend, the shaded area is the 95% confidence interval. Photo: Great Yellow Bumblebee. Nick Owens, 2012.



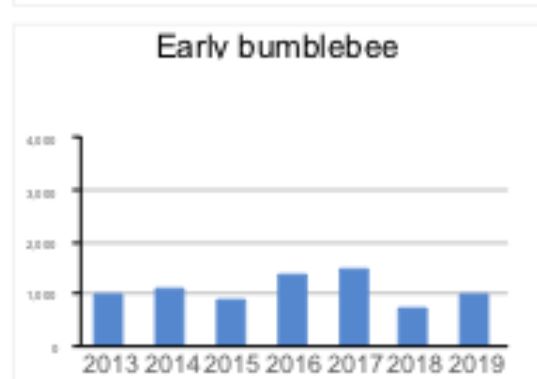
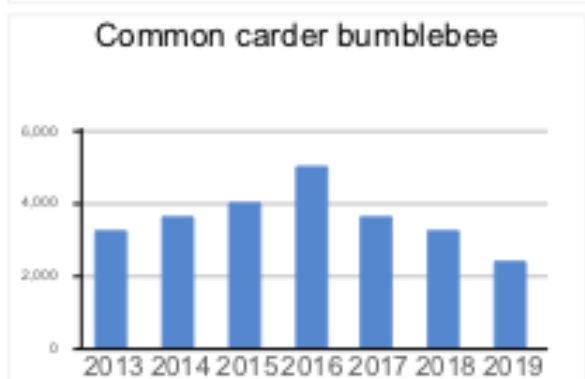
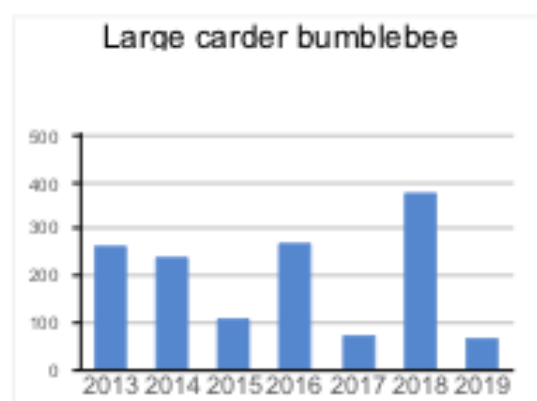
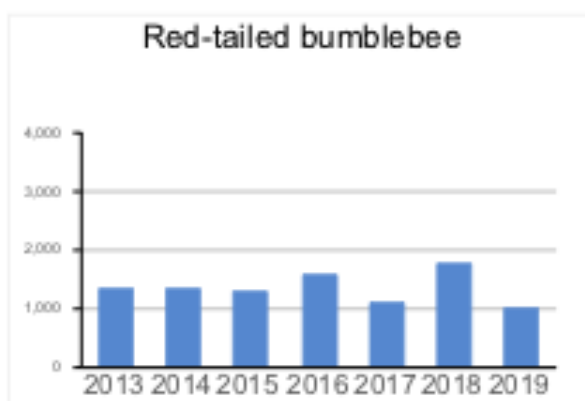
The size and distribution of insect populations can also be seen on a map.



This map of Ireland on the left shows records of the Great Yellow Bumblebee since 1896, while the one on the right shows fewer populations since 2010.

Total abundances from All-Ireland Bumblebee Monitoring Scheme data 2013-2019

	2013	2014	2015	2016	2017	2018	2019	Grand Total
Red-tailed bumblebee	1311	1332	1304	1577	1085	1769	994	8690
Large carder bumblebee	261	236	107	267	69	376	65	1585
Common carder bumblebee	3251	3637	3987	4975	3596	3235	2400	24115
Early bumblebee	1003	1142	907	1362	1506	737	1015	6864



2019 Data from the All-Ireland Bumblebee Monitoring Scheme

	March	April	May	June	July	August	September	October	Grand Total
Red-tailed bumblebee	36	44	97	240	260	274	42	1	994
Large carder bumblebee	0	2	4	2	6	26	25	0	
Common carder bumblebee	22	107	272	373	266	751	547	62	
Early bumblebee	29	34	227	478	49	172	23	3	

