

ACT for Bees

Submission on Nature in Our City

The Committee Secretary

Standing Committee on Environment and Transport and City Services

Legislative Assembly for the ACT

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ACT for Bees is an organisation dedicated to raising awareness of the importance of bees for the health of the environment and food security. We have just released an Australian curriculum aligned [‘Love Food? Love Bees!’ Food Security and Sustainable Agriculture -Years 9 & 10 curriculum](#) with Cool Australia which focuses on the importance of sustainable agriculture for healthy and productive soils which in turn support healthy plants, pollinator health and the overall health of the ecosystem.

We teamed up with Cool Australia in 2016 to create the [‘Love Food? Love Bees!’ Year 5/6 curriculum](#) which explores the importance of bees for much of our food, threats to bees and ways students can take bee friendly action in their community. This has been very successful and reached over 55,000 Australian students within a year of its release.

As a part of our Vision for ACT for Bees we are working towards the ACT becoming a ‘Bee Friendly’ Territory by 2020, where government, education, business and community practices and behaviours support and encourage healthy bees.

- 1. Raise awareness with the ACT and regional community and key stakeholders about the importance of healthy bees and bee-friendly practices that enhance agricultural and honey productivity, food sustainability / security and public and environmental health.*
- 2. Promote bee-friendly plant propagation, gardening and environmental practices in home gardening, farming, workspaces, public recreation parks, gardens, open spaces and beekeeping.*
- 3. Develop curriculum materials and resources for schools and other educational organisations about the importance of bees and bee-friendly practices.*
- 4. Promote the importance of bees and bee-friendly practices in the wider Australian and Global community*

Summary

To prevent the irreversible collapse of Australia's bee populations the ACT Government has a unique opportunity to get out in front and lead Australia on this issue of national importance. In addition to signalling to other States that this can be done, the ACT government can lead by establishing a cost-effective and well-designed policy which can address the risks to bee health and also establish positive actions that builds the resilience of our bee populations.

ACT for Bees calls on the ACT Government to seize this opportunity and lead by creating Australia's first 'bee friendly' State and Territory. Taking affirmative action to protect all bees, including native bees and other pollinators, from threats such as pesticides will deliver significant economic, social and ecological benefits to the ACT.

Action to support bees is required in two broad areas. Firstly, the Government needs to take steps to protect bees by reducing exposure to pesticides and herbicides that are toxic to bees. Recent studies have demonstrated that neonicotinoids, or neonics, have contributed to the decimation of bees and colony collapse across the globe. Actions open to the Government on this front include reducing or eliminating the use of neonicotinoids in the ACT, in line with recent actions taken in Europe and Canada, and to scope the establishment of a bee friendly labelling system for nurseries to verify that a plant, from seed to sale, has not been exposed to bee toxic pesticides. The ACT Government has an opportunity to lead Australia on this issue like it is currently in the climate action space.

Secondly, Government action is required to foster the survival of bees by ensuring action is taken to facilitate adequate sources of food are available to bees through all seasons. The creation of such a bee friendly environment can be facilitated through small and practical changes to a number of existing ACT Government programs and activities, including the Free Plant Issue Scheme to new households and the Street Tree Replacement Program. Further, existing ACT guideline and information documents such as MIS25 (plant species for urban landscape projects) can be updated to make it easier for those who recognise the critical importance of bees in our environment to select bee friendly plants. These simple no regrets actions will help to strategically create corridors of bee friendly plantings across the ACT.

Becoming a 'bee friendly' territory is about making our bee population more resilient to existing and emerging threats such as exposure to pesticides, a lower number of forage plants in the new suburbs (due to smaller block sizes), biosecurity threats including the Varroa mite, and the emerging problem of the European Wasp that predates on bees and plunders hives.

Broadening and enriching bee foraging areas as part of the creation of a corridor of bee friendly plants across the ACT though use of Government's existing policies, in tandem with other initiatives like pesticide control and European Wasp control efforts, will facilitate the preservation of a robust ACT bee population.

These affirmative actions will not only facilitate the survival of plant pollinators and other insects which are keystone species for our ecosystems but will also help preserve and improve the social amenity, economic development, biodiversity and climate resilience across the whole community.

1. Protecting ACT Bees: Pesticides and Herbicides - Neonicotinoids and the Need for Urgent Action

Over recent years many assessments and studies of the impact of pesticides, particularly neonicotinoids (or neonics), on bees have been undertaken and the evidence overwhelmingly demonstrates that these chemicals adversely and significantly impact bees. One of the more prolific neonics is Imidacloprid, patented in 1986 and first widely used in the US in 1996.

Perhaps most telling of the recent studies is one undertaken by the UK Centre for Ecology and Hydrology with findings released in 2017. The study, funded largely by two neonicotinoid producers Bayer Cropscience and Syngenta, found that the pesticides cause ‘... significant negative effects at critical life-cycle stages’ and ‘the pesticides reduce honeybees’ ability to survive their winter hibernation.’¹

The EU has recognised the threat to bees of neonics for some time and in 2013 prohibited the application of three neonics on crops that are attractive to bees (such as sunflowers and maize). Further to more information about the adverse impacts of neonics the EU is now considering the banning of all outdoor uses of neonics².

Neonics are systemic pesticides. That is, they are absorbed by the plant, through root, foliage or even seed, and spread to all parts of the plant including pollen and nectar. Canada’s Pest Management Regulatory Agency has been assessing neonics since 2012 and has found that one of the neonics, Imidacloprid, is ‘... building up in the surface and ground water and causing widespread death among aquatic insects.’ Its interim recommendation is to go down the EU path and ban Imidacloprid from most agricultural and outdoor uses entirely. The timing coincided with the publication of an open letter signed by 200 scientists in the journal Science asking international governments to ‘develop agreements to not use so-called neonicotinoids and to prevent similarly harmful pesticides to be developed and used in the future’³.

It appears that the impact of neonics on bees is just the tip of the iceberg. Field studies in Germany over the past 25 years have found that flying insect numbers have fallen by 75%. Although the cause/s are unclear, widespread pesticide use is one of the most likely factors⁴. Beyond the reduction in insect numbers is inevitably a reduction in bird numbers. Numbers of some insect eating bird species across France have recently fallen by two thirds⁵.

¹ Refer <https://www.nature.com/news/largest-ever-study-of-controversial-pesticides-finds-harm-to-bees-1.22229>.

² Refer <https://www.nature.com/articles/d41586-018-02639-1>

³ Refer <https://www.thestar.com/news/canada/2018/05/31/health-canada-recommends-phasing-out-common-pesticide-that-may-harm-bees.html>

⁴ Refer <https://www.theguardian.com/environment/2017/oct/18/warning-of-ecological-armageddon-after-dramatic-plunge-in-insect-numbers>

⁵ Refer <https://www.theguardian.com/world/2018/mar/21/catastrophe-as-frances-bird-population-collapses-due-to-pesticides>

The mounting evidence demonstrating the catastrophic environmental and ecological consequences of using neonics are further evidenced in a 2017 US court case where the Federal Court has ruled that the Environment Protection Agency systematically violated the Endangered Species Act by unlawfully registering 59 neonicotinoid products between 2007 and 2012⁶.

There is a lack of equivalent studies in Australia. However, if we take account of international findings such as those of the EU, Canada and the US, which give clear indication that neonics are causing huge ecological damage, let alone damage to bees, then the do nothing option for the ACT is not viable.

ACT for Bees calls on the ACT Government to take the lead on action to protect bees in Australia by:

Recommendation 1 That the ACT Government ensure that all Government agencies do not use any neonics products in the undertaking of their business (including sports ground maintenance, plant production, street plantings etc).

Recommendation 2 That the ACT Government consider banning the sale and use of neonicotinoid products in the ACT.

Recommendation 3 That the ACT Government scope the potential for a labelling system for plants sold at nurseries that identifies that a plant has not, from seed to sale, been exposed to a neonicotinoid product.

Australia wide action to address the negative environmental impacts of neonics is an issue of national importance. To assist with achieving an agreed position across Australian States and Territories, as well as that of Federal Government and New Zealand, the ACT government has an opportunity to lead Australia and take immediate action given the devastating impact that neonics are having on the ACT environment.

Action also signals to other States what is possible and helps move policy towards ultimate harmonisation. We recommend the ACT Government Minister write to the Australian Pesticides and Veterinary Medicines Authority (APVMA) seeking a review of all pesticides containing neonics in light of the recent US Federal Court case and the assessment of Imidacloprid's impact on the environment by Canada's Pest Management Regulatory Agency as well as the latest international studies and resulting actions of Canada and the EU to prohibit the external use of neonics.

Further, it would be appropriate for the Chief Minister to raise this issue as an agenda item for the next Agricultural Ministers' Forum seeking support of the Forum to restrict, if not prohibit, the external use of neonics containing pesticides across Australia.

⁶Refer <https://www.centerforfoodsafety.org/press-releases/4940/court-holds-bee-killing-pesticide-approvals-violated-the-law>

Recommendation 4 That Chief Minister writes to the APVMA requesting a review of pesticides containing neonics in light of the outcomes of the recent US Federal Court case and findings of Canada's Pest Management Regulatory Agency as well as the latest studies on the ecological impacts of neonicotinoid containing pesticides and the actions taken by Canada and the EU to prohibit their external use.

Recommendation 5 That the Chief Minister seek to include an agenda item for the next Agricultural Ministers' Forum seeking support to restrict, if not prohibit, the external use of neonicotinoid containing pesticides in Australia.'

2. Creating Pollination Corridors

Although not a native to Canberra, the honey bee has become an integral and valuable member of both urban and native habitats of the ACT region. Apart from the pressures on bee colonies of pesticides and herbicides, bees are also exposed to a range of other pressures, varying from a reduction in forage plants in new land releases due to recent smaller block size trends to the proliferation of European wasps in the ACT region (which predate on bees and their larvae).

To counteract these threats, Government action is needed to make the bee population in the ACT region more resilient by promoting an increase in plantings of bee friendly plants strategically in ways that creates pollination corridors across the ACT. There are several low cost ways that the Government is able to increase the population of forage plants throughout the ACT and facilitate the availability of forage food for bees through all seasons.

The Plant Issue Scheme entitles purchasers of new residential blocks to an allocation of free plants, to the value of \$220 per block, from Yarralumla Nursery. In propagating and purchasing plants for issue under the Scheme, Yarralumla Nursery could take into consideration the bee friendliness of the various species options. Making information available to Scheme recipients as to which plants are bee friendly and when they flower would also be of benefit to those wanting to contribute to making our urban areas more bee friendly.

Recommendation 6 That Yarralumla Nursery ensures, in propagating and purchasing plants to be available under the Plant Issue Scheme, that bee friendly (forage) plants with various flowering seasons are available.

Recommendation 7 That recipients of plants under the Plant Issue Scheme have access to information about the bee friendly plants available and when they flower, with the information available either on the Plant Issue Scheme e-pamphlet or at the Nursery.

The ACT Government's Municipal Infrastructure Standards include MIS 25 which identifies plant species for urban landscape projects, such as greenfields and brownfield/urban in-fill developments. Developers are required to select appropriate vegetation for a development site from MIS 25. Developers wishing to incorporate sustainable development principles into their projects would benefit from the inclusion of additional information about plant species, such as bee friendliness and when plants flower, in MIS 25. ACT for Bees has been involved in establishing bee friendly aspects of the Ginninderry greenfields project and revising MIS 25 will facilitate the establishment of bee friendly

landscapes by other developers, especially given the context of an increasing appetite of communities for sustainable developmental practices. See Appendix 1 & 2

Recommendation 8 That information about the bee friendliness and flowering times of plants listed in MIS 25 be incorporated into the Standard to provide developers the opportunity to establish bee friendly landscapes within their developments.

The ACT Government is also undertaking a Street Tree Replacement Program. When replacing trees it would be appropriate for the Government to take into consideration bee friendly tree planting options as per a revised MIS 25. In replacing street trees, the Government should consider plantings in the context of providing urban landscapes that establish pollination corridors with year round flowering.

Recommendation 9 That the Government and TAMS give favourable consideration to the planting of bee friendly trees, as identified in a revised MIS 25, when undertaking the Street Tree Replacement Program.

Recommendation 10 That the Government and TAMS consider tree and other plantings in the urban landscape that establish pollination corridors with year round flowering.

Appendix 1 is the DRAFT MIS 25 original from TAMS

Appendix 2 is exactly the same document with additions of flowering times, nectar/ pollen resources and species of pollinator/ bird using the plant for forage.

3. BEE POPULATION COLLAPSE – IMPLICATIONS AND BENEFITS OF ACTION

Few would argue that bees, including native bees and other pollinators, are not essential to us. They impact on just about every aspect of our existence from food to recreation through their essential life supporting pollination ecosystem service which underpins our critical biodiversity.

Community and Social Amenity

Backyard veggie gardens and fruit trees have been a feature of the ACT urban environment for decades. Over recent years the number of school kitchens and community gardens, with a reinvigorated community zest for local food production, have increased substantially. However, without pollinators many home grown vegetables, fruits and nuts that we take for granted such as tomatoes, corn and almonds will not be able to be produced.

This essential element of our social amenity must be preserved and to do that action must be taken to protect pollinators.

Economic Development

In the ACT region just about all our agricultural produce depend on the pollination by bees and other insects of crops, orchard trees and other commercial plants. Any reduction in the bee and other pollinator populations will have a direct impact on the viability of those agricultural activities and a negative and substantial impact on the economy in general. This could also flow onto serious food

shortages if the colony collapse disorder increases in scale and scope across Australia's food producers that rely on pollination ecosystem services provided by bees.

Biodiversity

Insects, including the pollinators are the keystone species of our ecosystems. There is irrefutable proof that neonics are adversely impacting bees and other insect species and beyond a certain tipping point, our entire ecosystem is at risk of collapse. Any adverse impact on our ecosystem will reduce biodiversity, and in turn threaten the fabric of life itself on this planet.

Climate Resilience

The healthier an ecosystem the better are its chances of coping with external stressors such as climate change. Given the climate change pressures that our region is exposed to, every reasonable effort to support the health of our ecosystem must be taken. This includes the protection of the keystone insect species of our ecosystem, including the pollinators.

Conclusion

We take for granted that bees will be with us, and quietly go about their business, for eternity. However, the survival of bees is not a given, especially when we observe the alarming international trend of colony collapse which is decimating bee populations across the world.

On 14 May 2018 the Ontario Beekeepers' Association issued a media release to announce that of 900 beekeepers surveyed about the condition of their colonies following the 2017/18 winter, 70% responded advising that they had suffered unsustainable losses and over 30% suffered colony losses of 70% or more. Although only one in five of the beekeepers surveyed attributed the cause of the heavy losses to pesticides, the event clearly demonstrates the vulnerability of bee populations around the world⁷.

The Ontario experience is consistent with the 2017 findings of the UK Centre for Ecology and Hydrology that 'the pesticides reduce honeybees' ability to survive their winter hibernation.' Unfortunately the Ontario experience is not unique. There has been an increasing global trend of colony collapse and the contribution of neonics to this trend is indisputable.

If no action is taken to better protect bees and other pollinators then the consequences could be dire. It is up to world leaders in sustainable practices, such as the ACT Government, to take early action to prevent further exposure of bees and keystone insect species of our ecosystem to neonics and to promote the establishment of bee friendly urban environments and landscapes.

To prevent the irreversible collapse of Australia's bee populations the ACT government has a unique opportunity to get out in front and lead Australia on this issue of national importance. In addition to signalling to other States that this can be done, the ACT government can lead by establishing a cost-effective and well-designed policy which can address the risks to bee health and also establish positive actions that builds the resilience of our bee populations.

⁷ (See <https://www.ontariobee.com/inside-oba/news-and-updates/ontario-beekeepers-experience-overwhelming-losses>)

ACT FOR BEES LIST OF RECOMMENDATIONS

Recommendation 1 That the ACT Government ensure that all Government agencies do not use any neonics products in the undertaking of their business (including sports ground maintenance, plant production, street plantings).

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