3rd March 2016

Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Secretary,

Re: Inquiry into the risks and opportunities associated with the use of the bumble bee population in Tasmania for commercial pollination purposes

Please find enclosed a submission from Costa to the Senate Inquiry into the risks and opportunities associated with the use of the bumble bee population in Tasmania for commercial pollination purposes.

Costa believes that a genuine economic opportunity exists for both the horticultural sector and the bee keeping industry through the permitted and controlled breeding and use of bumble bees in the pollination of Tasmanian commercial glasshouse crops.

The contact person for any queries relating to this submission is Mr Michael Toby, Corporate Affairs Manager,

Thank you.

Yours faithfully

Michael Toby
Corporate Affairs Manager
Costa Group

Costa overview

Costa is one of Australia's largest horticultural companies and a major grower, packer and distributor of fresh fruit and vegetables.

Employing more than 6,000 workers during peak harvest periods, Costa has an economic presence in more than 30 regional and rural communities across every state of Australia.

The Costa business presently consists of seven fresh produce categories which include:

- Tomatoes
- Citrus
- Mushrooms
- Berries
- Bananas
- Grapes
- Avocados

Six of these categories are vertically integrated enterprises with activities spanning farming through to retail and wholesale sales. Avocados is a purely marketing enterprise.

Costa also operates a marketing alliance network with hundreds of fresh produce growers across Australia. We also have wholesale market operations in Victoria, Queensland and South Australia.

Costa tomato category

Costa has made a significant financial commitment to the future of the Australian protective cropping and glasshouse horticultural industry, owning and operating 30 hectares of tomato glasshouses located at Guyra in northern New South Wales.

Employing up to 500 workers, Costa is the largest employer in the region, having invested $100 million in the construction of the glasshouses and the associated infrastructure to specifically grow tomatoes.

Costa produces more than 13 million kilograms of glasshouse tomatoes per annum at its Guyra site.

Pollination of glasshouse crops

The efficient and effective pollination of glasshouse tomato plants is crucial to the year round production of glasshouse tomato plants.

Tomatoes belong to a unique class of fruits (and vegetables) that require 'buzz' pollination.

Known scientifically as *sonication*, buzz pollination is the technique used by some bees to release pollen which is more firmly held by the male sexual part of the flower the anther, to make pollination more efficient.

The most efficient pollination is accomplished by a few species that specialize in buzz pollination. Whilst the use of native bees has been researched, there remains only one serious contender for this job, namely the bumble bee.

In order to release the pollen, bumble bees and some species of solitary bees are able to grab onto the flower and move their flight muscles rapidly, causing the flower and anthers to vibrate, dislodging pollen.

In glasshouse grown crops where wind is not available, bumble bees add to the considerable yield and sustainability advantage over field-produced crops.

Unfortunately the possession and use of bumble bees is not permitted in Australia and therefore glasshouse crops must be hand pollinated by use of vibrating pollination wands.

Economic benefit of using bumble bees

Commercial glasshouse tomato growers in New Zealand claim that using bumble bees as pollinators results in a superior quality tomato and about a third more fruit set than other methods of pollination. [1]

In a glasshouse tomato crop, a single bee has the ability to pollinate 450 flowers per hour.[2]

Based on Costa's experience of operating a tomato glasshouse the following information is provided to highlight the difference between using hand pollination and bumble bees.

A single person undertaking hand pollination can pollinate approximately 2,500 plants per hour. Therefore, six bumble bees (based on 450 flowers per hour) could pollinate the equivalent of what a human pollinator can do in an hour.

Using a 10 hectare glasshouse as an example, such an area contains 350,000 plants and it costs approximately $11,500 per week to hand pollinate the plants.

Pollination is required for 42 weeks of the year, making the cost per annum of hand pollination for a 10 hectare glasshouse containing 350,000 plants approximately $475,000.

If bumble bees were exclusively used to pollinate the crop, then a 10 hectare glasshouse would need 1,000 hives per year, (at 80 bees per hive). Each hive would cost approximately $160 AUD[3], resulting in a yearly cost of approximately $160,000 or $2 AUD per bee.

If glasshouse horticultural producers were allowed to use bumble bees instead of hand pollinators, then based on a 10 hectare crop, the economic benefit would be a production cost saving of $315,000 per annum.

[1] Hydroponic Tomato Crop Production p.122 – Dr Lynette Morgan
[2] Ibid, p.122
[3] Calculated on the assumption that the cost of bumble bee hive in Tasmania would be similar to New Zealand.

Bumble bees in the crop mean that pesticide use has to be greatly reduced in favour of biological pest management, resulting in improved safety for Australian consumers and crop workers. It also creates a 'clean and green' marketing advantage as used to sell produce in Europe which has been pollinated by bumble bees.

Bumble bees also enhance the quality and yield of other crops relevant to Australian growers. Crops for which bumble bees are used overseas include fruit crops (almond, apple, apricot, black currant, blackberry, cherry, cranberry, gooseberry, peach, pear, plum, red currant, strawberries, blueberries, kiwifruit), vegetable crops (courgettes, cucumber, eggplant, melon, tomato) and seed crops (cabbage, carrot).

Glasshouse horticultural crop production vs field crop production

Tomato Case Study	Field	High Tech Glasshouse
Production unit size	10,000 m2 (1 ha)	10,000 m2 (1ha)
Plants per sq.m	1.1	3.4
Total Plants	11,000	34,000
Yield/m2	7kg/m2	65kg/m2
Crop Length	7 months	11.2 months
Production (kg) p.a.	70,000	650,000
Saleable yield (kg)	56,000	605,000
Water Usage	8 M/L	22.5M/L
Recycled Water Use	NIL	6.75
Effective Water Use	8	15.74
Yield (t) per M/L	7.0	38.4
Equivalent Field Production (ha)	1	10.8

The above table comparing field grown tomato crops with glasshouse grown crops clearly demonstrates the benefits of glasshouse/protected horticulture. In all key comparators, including yield, crop length, volume and effective water use, glasshouse crops produce superior outcomes.

Bumble bees have also been observed pollinating Costa's 140 hectares of berry plants located on the North West Coast of Tasmania. Costa currently relies on honey bee hives to assist with pollination. If commercial rearing and supply of bumble bees were to be permitted in Tasmania Costa would also utilise bumble bees for the purpose of pollinating our berry plants.

Current prohibition on bumble bees

Although bumble bees have been present in the Tasmanian wild for 20 years or more, the use of bumble bees to pollinate glasshouse crops in both Tasmania and on the Australian mainland is currently prohibited under the Commonwealth *Environment Protection and Biodiversity Conservation Act (EPBC) 1999.*

It should be noted that the species is not listed as an invasive species in Tasmania and in fact a government trial was conducted in 1997 by the Department of Primary Industries to determine if a breeding program could be established with the existing Tasmanian population.

In October 2008 the then Environment Minister Peter Garrett rejected an application by the Australian Hydroponic and Greenhouse Association (the Association) requesting the Minister approve the importation, and use of bumble bees for pollination purposes in commercial glasshouses.

The Minister's decision was based on the following reasons:

- Bumble bees brought into Australia for crop pollination in greenhouses could have posed a serious risk to the Australian environment, native bee populations and native bird species.
- The scientific evidence and advice suggests that the environmental and economic risks of a large earth bumble bee population spreading throughout mainland Australia are significant.
- The risk of them (bumble bees) escaping into the environment and spreading weeds are too great.

Because these concerns are not widespread and cannot be demonstrated by the available evidence, the Minister was forced to rely on the precautionary principle even though ***he did not find*** that bumble bees constituted threats of serious or irreversible environmental damage.

The precautionary principle states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is harmful, then the burden of proof that it is *not* harmful falls on those taking the action.

Further, the Minister did not investigate the impact of bumble bees on the environment of Tasmania or New Zealand, a country where bumble bees have been present for at least 135 years.

The Association's submission addressed comprehensively (citing 500 references) and scientifically the various arguments which have been raised against the importing of bumble bees into Australia for commercial purposes.

The fact that the use of bumble bees in Tasmania in particular is prohibited under the EPBC Act is illogical. The basis for their prohibition is that it cannot be proved that the bumble bees were introduced lawfully.

This situation is depriving the state of Tasmania the opportunity to capitalise on a competitive advantage with respect to glasshouse horticulture. If bumble bees could be used in Tasmania, it would also provide a genuine and new growth opportunity for the beekeeping industry to provide pollination services to the horticulture industry.

Costa notes that there is currently an amendment (Attachment 1) to the EPBC Act (Schedule 4A—Possession of live specimens - Environment Protection and Biodiversity Conservation Amendment Bilateral Agreement Implementation Bill 2014) before the parliament which if passed could allow a bumble bee trial to be conducted in Tasmania upon a submission made to the Federal Environment Minister.

Competition with honey bees and impact on environment

It has been alleged that bumble bees could adversely impact honey bees, however it is a fact that nowhere else in the world has this been raised as a concern.

European honey bees and many species of bumble bees coexist in the Northern Hemisphere, where both originated. Honey bee colonies last several years, may contain thousands of individuals, and contain honey stored for future needs.

In contrast a bumble bee colony lasts only several months, may contain between one and at most a few hundred individuals, and contains only enough honey for immediate use.

There are also major differences in foraging preferences and communication abilities, with a bumble bee's foraging range also much more restricted. The range of a bumble bee is estimated to be no greater than 5 kilometres.

If there is any competition at all, at most it is only going to be transitory and local.

It has also been observed by Costa personnel that in using honey bee hives for our raspberry crops in Tasmania, the honey bees actually kill the bumble bees when they attempt to enter the hive. The evidence of this is the large collection of dead bumble bee carcasses immediately on the ground at the bottom of the hives.

Should honey bees in Australia contract varroa mite, or be decimated by other parasites and pathogens, there will be a major shortage of pollinators. While native bees may assist in the summer months, bumble bees will work in cooler temperatures and can be managed commercially to provide pollination on demand.

Costa has also investigated the impact of bumble bees on New Zealand honey bees and the environment. Advice received by Costa from respected New Zealand entomologist Dr Barry Donovan dated 7th March 2014 (Attachment 2), notes that bumble bees have been present for 135 years in New Zealand. Dr Donovan further notes that there have never been any concerns raised by bee keepers or any other person that bumble bees impact adversely on honey bees. In research published by Dr Donovan in 1980 into possible interactions of native and introduced bees, he concluded that overlaps were absolutely minimal, and that there were no obvious adverse impacts.

With respect to the impact or otherwise of bumble bees on the native environment in New Zealand, Dr Donovan confirms that no studies have ever been undertaken because there have been no suspicions of any adverse impacts. Dr Donovan states that as far as he is aware, conservationists have never expressed any concern at the presence of bumble bees in New Zealand.

Costa also notes that there is evidence from Tasmanian bee keepers which strongly suggests that bumble bees have not had any adverse impact on honey bees.

In making this assertion, Costa relies on the success of Tasmanian bee keepers in exporting live bees to other countries, most notably Canada and the United States.

In an article (Attachment 3) in the Devonport Advocate of 15th October 2014, titled 'Disease – free bees make a global impact', the owner of Australian Honey Products and President of the Tasmanian

Beekeepers Association, Mr Lindsay Burke spoke at length about how he and other Tasmanian bee keepers were exporting live bees to other countries.

The article states that 'Canada and the United States are 'picky' about importing live bees, which benefits Tasmania's ***pest free*** bee populations'.

The logical conclusion that one would draw from this article is that:

a) Honey bees in Tasmania are pest free and in particular that Tasmanian bees are free from the Varroa destructor mite and another pest, the small hive beetle, which is spreading across mainland Australia.
b) Honey bee colonies in Canada and the USA have been devastated by the impacts of the Varroa mite and in particular the effects of the mystery syndrome - colony collapse disorder.
c) Because of a) and b), Tasmanian honey bees can be exported to Canada, USA and other countries, especially those with strict quarantine regulations and
d) Bumble bees have clearly not had an adverse impact on Tasmanian honey bees.

There has also been much conjecture as to whether bumblebees pose a threat to Swift Parrots. The Recovery Plan for the Swift Parrot and Species Habitat Planning Guidelines (FPA 2010) do not identify competition with bumblebees as a threat. As bumblebees do not compete with Swift Parrots for nesting habitat the potential threat relates to competition with available food sources. However, there is no evidence that bumble bees are having any impact on available food sources. Given that Wolf and Moritz (2008) determined that the mean foraging distance of *Bombus terristris* (bumble bees) workers was 267 metres it is highly unlikely that they could compete with a population of Swift Parrots in regards to foraging effort and coverage.

Further, Hingston determined in 2006 that the bumble bee is now present in all regions and habitat types across Tasmania yet there are no impacts attributed to bumble bees on any threatened species or vegetation communities. It should also be noted that the Tasmanian population has not been able to invade any of the mainland states even though they have been present in Tasmanian for 20 years.

Impact on humans

While bumble bees can certainly sting if provoked, they are not aggressive and stings are rare. In the northern Hemisphere many species of bumble bees coexist with each other and with humans without this being an issue except for rare cases. Bumble bee production facilities and greenhouses using bumble bees usually keep Epi-pens on hand in case of an allergic reaction.

Native pollinators

Because there were claims that Australian native bees could replace the need for bumble bees in pollinating greenhouse tomatoes, the submission to the Environment Minister as referred to above, examined this issue extensively. The most likely candidate is the buzz pollinator *Amegilla*, the blue-banded bee. While it is an efficient pollinator, it is not a social bee and has no commercial value or use except on a limited scale as a pollinator for seed crops in greenhouses. Research was funded for several years with little result.

Spread of diseases

Pathogens and parasites of bumble bees are well documented and are a concern primarily to other bumble bees. Very few are relevant to honey bees. Nowadays, with improvements in technology, these can be screened for. New Zealand populations are not entirely free of harmful parasites and predators but the Tasmanian population arrived with only a common nest commensal mite, easily eliminated. Hence the risk of spreading diseases or pathogens would not increase whether the existing population was used to establish a breeding program or bumble bees were imported from New Zealand.

Analysis of the Tasmanian bumblebee population has determined that they are free of parasites and diseases that could infect other species. Only one species of mite, *Kuzinia laevis*, which is a benign pollen-thief that is specific to the genus *Bombus* (Chmielewkis 1991) has been found in the Tasmania population. Hence the population is considered relatively parasite-free, and does not pose a threat to other species such as honeybees.

Biobees Ltd, New Zealand's largest producer and exporter of commercial bumble bees hives has advised Costa that they must obtain a disease free certificate issued by the New Zealand Ministry of Agriculture and Fisheries before any bumble bee hives can be exported. Likewise, Kopperts Biological Systems based in The Netherlands and also an exporter of commercial bumble bee hives, is required to have in place an approved system to guarantee disease free bees as part of their export certification process.

Dr Donovan notes in his letter of 7/3/14 that varroa mite was certainly not brought in to New Zealand on bumble bees and the evidence suggests that it arrived via illegally imported honey bees.

Global competition

Like most other areas of primary production, glasshouse farming is subject to intense international competition.

New Zealand (where bumble bees are present and legal) exports about 4000 tonnes of tomatoes p.a. to Australia (worth about $A4.26m), the Pacific Islands and Japan.

In recent years, New Zealand grown glasshouse tomatoes have sold at cheaper prices in Australian supermarkets compared to the Australian grown equivalent.

This price difference is in large part attributable to the significant labour cost savings provided by the use of bumble bees in New Zealand horticulture.

Over one million bumble bee colonies were produced globally in 2004 for pollination purposes for use in up to 40 countries in Europe, North America, South America and Asia.

These countries include China and South Korea, with China having the largest glass/greenhouse industry in the world with in excess of 1.6 million hectares of glass/greenhouses and growing. China already is a major exporter of tomatoes in the South East Asia region.

Bumble bees are also used in commercial glasshouses in South Korea, Japan, Chile and Peru. The Australian Government has recently completed free trade agreements with China, South Korea,

Japan and the Trans-Pacific Partnership which includes Peru and Chile. The Australian glasshouse industry is currently not competing on a level playing field with these countries.

Covered production (ie. protective cropping) is important for much of Japan's vegetable production and increasingly for fruit, with ***70% or more*** of tomatoes grown under cover.

In 2010, South Korea had an estimated 52,000ha of horticultural production under protective cover, including significant tomato and strawberry plantings.

Biosecurity Australia already has approved the import of glasshouse tomatoes from New Zealand (as noted above) and Holland, thus placing the local industry at a competitive disadvantage domestically as well as internationally.

Conclusion

The ability of commercial glasshouse horticultural producers to pollinate their crops with bumble bees would be of considerable economic and environmental benefit.

This would also potentially generate a level of demand for bumble bees and pollination services that would create a serious growth opportunity for the beekeeping industry.

In particular, the Federal Government would be providing the state of Tasmania with a genuine competitive advantage if it were to take action and allow bumble bees to be used in commercial glasshouses in Tasmania.

Costa is aware that the Tasmanian State Government supports a bumble bee trial in a commercial glasshouse. Costa has previously made a commitment to the Tasmanian Government that it will contribute toward the funding of a trial, involving the use of Tasmanian bumble bees in an existing commercial glasshouse. Such a trial, among other things would seek to confirm the efficacy of bumble bees as a glasshouse crop pollinator and establish any risk as to the bumble bees exiting the glasshouse and their potential impact on the environment.

However, given that bumble bees have been known to exist in the Tasmanian wild for at least the last 20 years and during this time there has been no credible evidence to suggest they have had a negative impact on the Tasmanian environment, the risks are surely minimal and indeed they already exist with or without the commercial use of bumble bees in glasshouses.

The current situation where the use of bumble bees in Tasmania is prohibited is simply and patently illogical.

END

Attachment 1

Schedule 4A—Possession of live specimens

Environment Protection and Biodiversity Conservation Act 1999

1 At the end of section 303BB

Add:

- It is also an offence to possess the progeny of a specimen that was imported in contravention of this Part unless:
  - (a) the specimen is included in Part 3 of the list referred to in section 303EA in relation to a State or Territory and an appropriate Minister of that State or Territory has notified the Environment Minister that the inclusion of the specimen in Part 3 of the list is in force for the State or Territory; or
  - (b) the person possessing the specimen holds a permit.

2 Division 4 of Part 13A (heading)

Repeal the heading, substitute:

Division 4—Imports and possession of regulated live specimens

3 Section 303EB (heading)

Repeal the heading, substitute:

303EB Listing of specimens suitable for live import or possession

4 At the end of subsection 303EB(1)

Add "or possession".

5 Subsection 303EB(2)

Omit "2 Parts", substitute "3 Parts".

6 At the end of subsection 303EB(2)

Add:

; (c) Part 3 is to be a list of regulated specimens that a person may possess in one or more States or Territories in the Australian jurisdiction.

7 Subsection 303EB(3)

Omit "The list", substitute "Parts 1 and 2 of the list".

8 After subsection 303EB(3)

Insert:

(3A) Part 3 of the list may only contain specimens:

(a) that:

(i) are live animals; and

(ii) are not included in Part 1 or 2 of the list; and

(b) that do not belong to native species;

and in respect of which subsection (3B) is satisfied.

(3B) This subsection is satisfied in respect of a specimen if the Minister considers that:
(a) the specimen is part of a feral population in a State or Territory; and
(b) possession of the specimen in the State or Territory would not be:
(i) likely to threaten the conservation status of a species or ecological community in the Australian jurisdiction; or
(ii) likely to threaten biodiversity; or
(iii) likely to contribute in any way to a wider distribution of the specimen.

(3C) If the Minister includes a specimen in Part 3 of the list, the Minister must also specify the State or Territory for which the inclusion of the specimen relates.

(3D) If the Minister includes a specimen in Part 3 of the list in relation to a State or Territory, the Minister must:
(a) consider, for each other State and Territory, whether subsection (3B) is satisfied in respect of the specimen; and
(b) if that subsection is so satisfied—specify the relevant State or Territory in relation to the specimen in accordance with subsection (3C).

9 Subsection 303EB(5)

Omit "Part 1", substitute "Parts 1 and 3".

10 After subsection 303EB(11A)

Insert:

(11B) For each specimen included in Part 3 of the list, there is to be a notation that states whether the inclusion of the specimen in that part of the list is subject to restrictions or conditions and, if so, the nature of those restrictions or conditions.

Note: If a specimen is included in Part 3 of the list in relation to more than one State or Territory, the same restrictions and conditions apply in those States or Territories.

(11C) A restriction or condition referred to in subsection (11B) may:
(a) consist of a quantitative limit in relation to the possession of the specimen; or
(b) relate to the circumstances in which the specimen is possessed.

(11D) Subsection (11C) does not limit subsection (11B).

11 After section 303EB

Insert:

303EBA State or Territory to advise whether specimen included in Part 3 of the list for a State or Territory is in force for the State or Territory

(1) As soon as practicable after a specimen is included in Part 3 of the list referred to in section 303EB, the Environment Minister must write to an appropriate Minister of each State and Territory to:
(a) advise of the inclusion of the specimen in Part 3 of the list; and
(b) seek advice on whether inclusion of the specimen in that Part of the list is to be in force for the State or Territory.

(2) A Minister of a State or Territory may notify the Environment Minister, in writing, that the inclusion of a specimen in Part 3 of the list:
(a) is in force for the State or Territory; or

(b) is not, or ceases to be, in force for the State or Territory.

(3) Within 10 business days of receiving a notification, the Environment Minister must publish a copy of it on the Department's website.

(4) A notification comes into force on the day of publication, or if a later day is specified in the notification, on that later day.

(5) To avoid doubt:
(a) if a Minister of a State or Territory notifies the Environment Minister that the listing of a specimen in Part 3 of the list is in force for the State or Territory and possession of the specimen is contrary to a law of the State or Territory, then the notification overrides the relevant law of the State or Territory; and
(b) if there is no notification by a Minister of a State or Territory, the listing of the specimen in Part 3 of the list is not in force for the State or Territory.

12 Paragraphs 303EC(1)(d) and (e)

After "Part 2", insert "or 3".

13 After subsection 303EC(1)

Insert:

(1A) For the purposes of paragraph (1)(b), if:
(a) a specimen is included in Part 3 of the list in relation to a State or Territory; and
(b) the Minister deletes the specimen from Part 3 of the list in relation to the State or Territory because the Minister ceases to be satisfied that subsection 303EB(3B) is satisfied in respect of the specimen;

the Minister must also consider whether that specimen should be deleted from Part 3 of the list in relation to all other States and Territories for which the specimen is included in the list.

Note: See also subsections 33(3) and (3AA) of the *Acts Interpretation Act 1901*.

14 Subsection 303GD(6A)

Omit "6 months", substitute "2 years".

15 After section 303GD

Insert:

303GDA Other testing permits

Applications for permits

(1) A person may, in accordance with the regulations, apply to the Minister for a permit to be issued under subsection (5).

(2) The application must be accompanied by the fee (if any) prescribed by the regulations.

Further information

(3) The Minister may, within 40 business days after the application is made, request the person to give the Minister, within the period specified in the request, further information for the purpose of enabling the Minister to deal with the application.

(4) The Minister may refuse to consider the application until the person gives the Minister the information in accordance with the request.

Minister may issue permits

(5) The Minister may, on application made by a person under subsection (1), issue a permit to the person. This subsection has effect subject to subsections (8) and (9).

(6) A permit authorises its holder to take the action or actions specified in the permit, in the permitted period, without breaching section 303GN.

(7) For the purpose of subsection (6), the ***permitted period*** is the period specified in the permit as the period during which the action or actions specified in the permit may be taken. The period so specified must start on the date of issue of the permit and end not later than 2 years after that date.

(8) The Environment Minister must not issue a permit to a person unless he or she is satisfied that:
- (a) the specimen is part of a feral population in a State or Territory; and
- (b) the person proposes to conduct tests on the specimen in the State or Territory; and
- (c) the conduct of such tests on the specimen would not be:
  - (i) likely to threaten the conservation status of a species or ecological community in the Australian jurisdiction; or
  - (ii) likely to threaten biodiversity; or
  - (iii) likely to contribute in any way to a wider distribution of the specimen; and
- (d) an appropriate Minister of the State or Territory approves, in writing, the conduct of such tests on the specimen; and
- (e) the tests will be conducted in a controlled environment.

Duration of permit

(9) A permit under this section:
- (a) comes into force on the date on which it is issued; and
- (b) unless it is sooner cancelled, remains in force until all of the following periods have ended:
  - (i) the permitted period (within the meaning of subsection (7));
  - (ii) each period for which one or more conditions of the permit are expressed to apply.

Investigations

(10) A reference in this section to ***tests on the specimen*** includes a reference to investigations relating to the specimen.

16 Subsection 303GN(2) (heading)

Repeal the heading, substitute:

Possession of CITES specimens and certain regulated live specimens

17 Subparagraph 303GN(2)(b)(ii)

After "included in", insert "Part 1 or 2 of".

18 After subsection 303GN(4)

Insert:

(4A) Subsection (2) does not apply if:
- (a) the person possesses the specimen in a State or Territory; and

(b) the person obtained the specimen from within the State or Territory; and

(c) the specimen was not obtained in contravention of any law of the Commonwealth, or of the State or Territory; and

(d) the specimen is included in Part 3 of the list referred to in section 303EB in relation to the State or Territory; and

(e) the specimen's inclusion in Part 3 of the list is in force for the State or Territory; and

(f) in the case of the specimen belonging to a taxon specified in the regulations—the conditions that, under the regulations, are applicable to the welfare of the specimen have been complied with.

Note: The defendant bears an evidential burden in relation to the matters in subsection (4A) (see subsection 13.3(3) of the *Criminal Code*).

(4B) Subsection (2) does not apply if the person's possession of the specimen is in accordance with a permit that was issued to the person under section 303GDA and is in force.

Note: The defendant bears an evidential burden in relation to the matters in subsection (4B) (see subsection 13.3(3) of the *Criminal Code*).

19 Subsections 303GO(1) and (4)

Omit "or 303FO(3)(f)", substitute ", 303FO(3)(f) or 303GN(4A)(f)".

20 Section 528

Insert:

feral population means an established population of animals (other than native animals) that sustains itself independently of human beings.

21 Continuity of list of specimens

The amendments to section 303EB of the *Environment Protection and Biodiversity Conservation Act 1999* made by this Schedule do not affect the continuity of the list referred to in that section.

[possession of live specimens]

Donovan Scientific Insect Research

Bees, Pollination, Wasps, Other Insects

Mr. Harry Debney
CEO CostaGroup
Locked Bag 1000
Sunshine
Victoria
Australia 3020

7 March 2014.

Attachment 2

Dear Mr. Debney,

Bumble bees in New Zealand

The four species of bumble bees in New Zealand were introduced from England in 1885 and 1906. The varroa mite was discovered in New Zealand in 2000, and was certainly not brought in on bumble bees.

Evidence suggests that varroa arrived a few years prior to 2000 either on illegally imported honey bees, or on a swarm that arrived undetected.

Overseas a few varroa have been reported to be carried by species of bees other than honey bees, and also wasps. Honey bees sometimes drop varroa onto flowers, where they are inadvertently picked up by other flower-visiting insects. The number of varroa carried by these insects is vanishingly small and is totally irrelevant compared to the high rate of spread of varroa by honey bees.

There have been no studies of the impacts of bumble bees on the native environment, because there have been no suspicions of any adverse impacts. As far as I am aware, conservationists have never expressed any concern at the presence of bumble bees in New Zealand. Indeed, because of the loss of some species of native birds that pollinated a number of native flowers, bumble bees that now visit the native flowers are regarded as possible replacement pollinators.

There have never been any concerns by beekeepers or any other persons that bumble bees impact adversely on honey bees.

In 1980 I published an investigation into possible interactions of native and introduced bees, and I concluded that overlaps were absolutely minimal, and that there were no obvious adverse impacts, and indeed that native bees were benefitting from the many introduced flowers, and the evidence suggested that most species that we knew anything about were thriving.

On 2 June 2009 I attended a meeting in Canberra with six persons from AHGA, six from DEWHA, and several others. Names I remember are Graeme Smith, Dr Stephen Goodwin, Marilyn Steiner, and Marcus Brandsema (a tomato grower from Tasmania). I presented evidence along the lines mentioned above, but to me it appeared that many people didn't want bumble bees introduced to the Australian mainland even if it could be shown that there was no possibility of any adverse impacts. Marcus Brandsema asked DEWHA if he could capture bumble bees flying past his glasshouse, but was told that if \found in possession of an organism that had not been legally

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introduced, the penalty was up to five years imprisonment and/or a $5,000.00 fine.

Yours sincerely,

B. J. Donovan

Barry J. Donovan
Entomologist

Attachment 3

Disease-free bees make global impact

By JASON THOMAS

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Talking with owner-director of Australian Honey Products Lindsay Bourke about exporting bees.Owner-director of Australian Honey Products Lindsay Bourke examins a hive frame full of pillen while explaining the process of using the starter boxes for breeding queen bees.

TASMANIAN beekeepers have tapped into a new market of live bee exports to countries where pests have destroyed hives.

Earlier this year Tasmanian beekeepers, including Australian Honey Products at Sheffield, sent 14 palettes of bees - 9.8 tonnes of live insects - to Canada.

Tasmania's season finished in February before Canada's season started, and many of the bees exported from Tasmania would have died anyway.

Each palette shipped this year had 500 1.4-kilogram packets, each with drones, workers and a queen.

North America's bee populations are currently affected by the varroa destructor mite, which carries the disease that kills entire hives.

Canada and the United States are picky about importing live bees, which benefits Tasmania's pest-free bee populations.

Biosecurity was important to maintaining the live export market, Tasmanian Beekeepers Association president Lindsay Bourke said.

Mr Bourke and wife Yeonsoon run their business, Australian Honey Products, at Sheffield.

They recently won the Export Finance and Insurance Corporation Small Business Award at the 2014 Tasmanian Export Awards.

The couple is not sure if the live bee exports helped with the latest award, but the business has won numerous awards for its various honey and hive products.

Live bee exports will increase after the end of the upcoming season, Mr Bourke said.

"The whole world needs bees," Mr Bourke said.

Each year as the seasons turn from summer to autumn, hives get rid of their male bees (drones).

Sometimes, the females bite the males' wings off and dumps them metres away.

Australian Honey Products' male bees would die anyway as Tasmania entered winter next year, so the new market for varroa mite-free bees was a smart move, Mr Bourke said.

It's a busy time of year for Tasmania's beekeepers, with drone breeding completed weeks ago and the process of breeding queens starting.

Soon they will take the queens to meet the males so new hives can start.

This week the Sheffield beekeepers were separating hives to breed queens.

Bees in the top part of hives could not see their queens, would panic, and produce new queens, Mr Bourke said.

Honey bee worker carrying a parasitic Varroa mite.THE AGE . news . SEPTEMBER 06, 2007 . image courtesy of ARS/USDA Scott Bauer . story by Chee Chee Leung .

"The bottom part of the hive (has a queen)," Mr Bourke said.

"We're making (the top half) think they don't have a queen any more."

When the new queens are nearly hatched, they will be put in new hives in time to meet the drones, which have already been hatched and have grown to a mature size.

Tasmania's climate means the state's beekeepers have a period of just two months for the bees to collect pollen.

Producers on the Mainland have up to 10 months, with some places in flower most of the year.

Tasmanian beekeepers can plan effectively for their busy period.

"If we do it correctly we'll produce as much honey (in two months) as they can on the Mainland in eight-to-10 months," Mr Bourke said.

Not having to deal with pests that plague the Mainland and other countries also helps.

The small hive beetle turns hives in Australia's eastern mainland states to slime, while the varroa mite has affected hives in other countries, including New Zealand.

Tasmania's exports of live bees would be in trouble if biosecurity across the Bass Strait was compromised, Mr Bourke said.

Hive beetles can survive in soil and if a shipping container arrived with dirt that contained hive beetles, the state could be at risk.

Mr Bourke said there was some wharf security and protections were stronger against diseased queen bees imported into Tasmania.

"Every queen that comes into the state is quarantined before it's released," Mr Bourke said.