eWasp™
Research & Monitoring Programs

CoreEnviro™
SOLUTIONS
Environmental Pest & Weed Management

European Wasp Spring Queen Trapping Program 2024

Jerrabomberra East Grasslands Nature Reserve

ACT Parks & Conservation Services

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December 2024

Image by CoreEnviro Solutions Pty Ltd

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Directors Summary

CoreEnviro Solutions European Wasp (eWasp™) Spring Queen Trapping Program Report 2024 to ACT Parks & Conservation Services. The information in this report is for the period 6 October - 27 November 2024.

About us

CoreEnviro Solutions is a Canberra-based service provider specialising in the delivery of noxious/environmental, agricultural, horticultural, aquatic pest and weed management, and pest control solutions.

Our main objective is to save our native species. We are committed to educating the public on invasive and beneficial species.

Innovation

CoreEnviro Solutions Pty Ltd is committed to minimising the establishment and spread of eWasps in Australia. We are committed to research and implementing new and improved innovative programs in environmental pest management, this is achieved through improved nest reporting along with insect and arachnid information and identification via both the eWasp mobile app and website.

Notes on Data

Count is the number of European wasp queens trapped and removed from the trap/station.
The SQ count is the count day in which the European wasp queen counts were conducted.
European wasp season runs from September through to April.
(eWasp Spring queen survival rate is approx. 30%)

Acronyms

eWasp	European wasp
eSQ	eWasp Spring Queen
APWSQ	Asian paper wasp spring queen
JEGNR	Jerrabomberra East Grasslands Nature Reserve

Executive Summary Table

- 42 non-chemical lure trap stations were deployed at Jerrabomberra East Grasslands Nature Reserve.
- 551 eWasp queens were trapped and removed from the environment.
- $121,220.00 estimated total savings on eWasp nest treatments (based on if all queens produced viable nests).
- Prevented an estimated 2,204,000 worker wasps impacting the environment (if all eWasp queens produced viable nests).
- Prevented an additional 165,300 next generation eWasp queens from establishing nests (based off 30% survival rate).
- Saved ACT Parks & Conservation Services staff 1,102 hours or 138 working days in time spent treating eWasp nests.
- Significantly reduced the use of pesticide required, 110kg of Permethrin dust, (200gms per nest) to control established nests in the Jerrabomberra East Grasslands Nature Reserve.
- Vespex is a non-chemical carbohydrate-based lure proved to have low impact on

A combined total of 592 eWasp spring queens trapped and removed from Jerrabomberra East Grasslands Nature Reserve and Amtech Grasslands.

Directors Comments

Welcome to the European Wasp Spring Queen Trapping Program Report for 2024. The trapping program was conducted in Jerrabomberra East Grasslands Nature Reserve by CoreEnviro Solutions Pty Ltd for ACT Parks & Conservation Services.

Canberra is the bush capital of Australia and has a total of 39 nature reserves in and around Canberra.

Jerrabomberra East Grasslands Nature Reserve, Symonston, borders New South Wales and in proximity to an NSW residential area, the Alexandar Maconochie Centre, and the Hume industrial area. The grassland is a natural temperate grassland and is over 125 hectares of protected area. Jerrabomberra Creek runs through the lower western side of the grassland, making it an ideal location for eWasp activity.

The grassland is home to threatened flora species such as Button Wrinklewort (*Rutidosis leptorrhynchoides*), fauna such as the Grassland Earless Dragon (*Tympanocryptis pinguicolla)*, and the Perunga Grasshopper (*Perunga ochracea)*. Jerrabomberra East Grasslands and Bonshaw support a high diversity of native grass and forb species.

Over the last several years, there have been numerous complaints from the nearby residential area, Alexandar Maconochie Centre, and industrial area regarding high eWasp activity.

CoreEnviro Solutions Pty Ltd approached ACT Parks & Conservation Services with a proposal to conduct an eWasp Spring queen trapping program, including the Asian paper wasp, to protect threatened and native species in the reserve, and to reduce the risk of stinging incidents to staff, contractors', and businesses in surrounding areas.

While CoreEnviro Solutions staff were conducting invasive weed control in the reserve, several abandoned Asian paper wasp (*Polistes chinensis*) nests were identified, indicating the invasive wasp was present in the reserve. In Tasmania, the Asian paper wasp is a declared pest, and all sightings must be reported to Tasmania Biosecurity.

During the program, there were 112 Asian paper wasp queens removed from the environment. The Asian paper wasp is around 1.3 – 2.5 cm in length with a slender body. They are black and yellow in colour and have orange legs and antennae. The Asian paper wasp looks very similar to the European paper wasp, difference is the two distinctive dots on the European paper wasp thorax, behind the head.

Asian paper wasps can occur at high densities of more than 200 nests per hectare and 6300 wasps per hectare. The potential impact of such high densities of these wasps on native ecosystems is a concern, although the full extent of this impact requires further research. Asian paper wasps prey mainly on invertebrates, especially caterpillars, and are capable of consuming 957g per hectare per season of invertebrate biomass. They also compete with other insects for nectar and honeydew resources[1]*.*

The 2024 spring queen trapping program deployed 42 traps in Jerrabomberra East Grasslands Nature Reserve. The program used a non-chemical product called Vespex by Sundew, see here for product information.

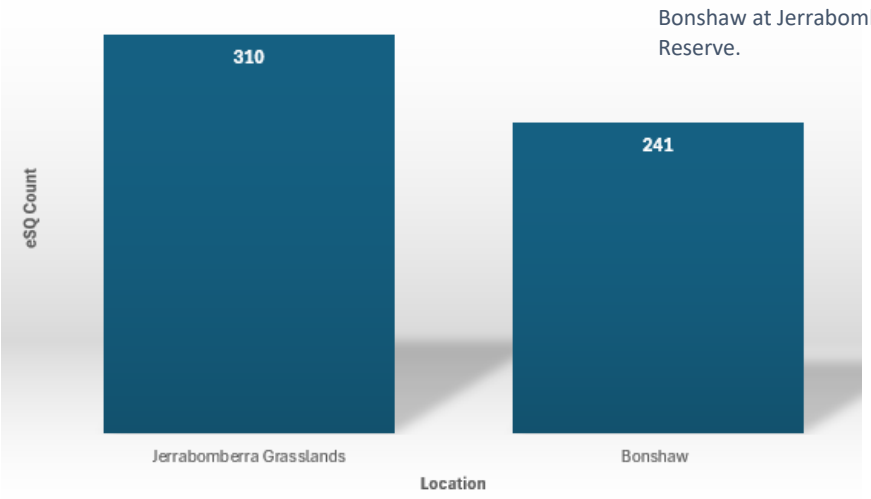
[1] Northland Regional Council New Zealand - Asian paper wasp - Pest control hub - Northland Regional Council (nrc.govt.nz)

Program Results

There were 42 European wasp spring queen traps deployed at Jerrabomberra East Grasslands Nature Reserve. The program ran from 6 October to 27 November 2023.

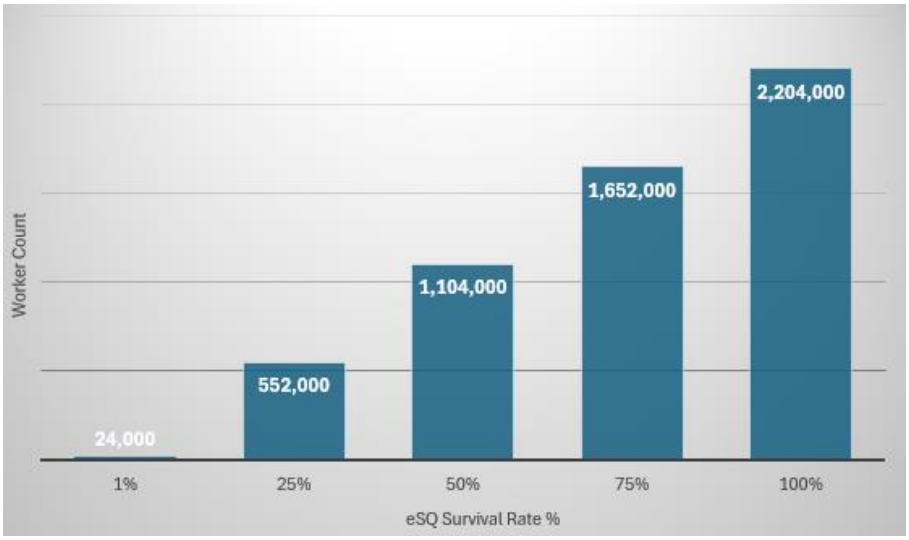
Chart 1 shows the total count by location.

The program was broken up into two (2) areas, Jerrabomberra Grasslands and Bonshaw at Jerrabomberra Creek Nature Reserve.



The trapping trial was successful in capturing 551 eWasp spring queens with little impact on the environment and native species. By removing the queens from the environment, we have eliminated the potential of 100,000's of invasive wasps impacting the environment at Jerrabomberra East Grasslands Nature Reserve.

Chart 2 shows the worker count by spring queen survival rate.



By removing eWasp spring queens from Jerrabomberra Creek Nature Reserve's environment, it has prevented the possible establishment of 551 nests, that is an estimated 2.2 million worker wasps, and 165,300 next generation queens, (at 30% survival rate), from impacting the environment.

Although the program has been successful in capturing and removing 551 eWasp spring queens from the environment, it is impossible to capture every queen.

Other PCS Programs 2024

CoreEnviro Solutions Pty Ltd conducted an additional two (2) eWasp spring queen trapping programs for ACT Parks & Conservation Services, Jerrabomberra Wetlands Nature Reserve and Amtech Grasslands.

The Jerrabomberra Wetlands Nature Reserve program was broken up into three (3) locations, JWNR The Causeway, JWNR Foreshore & JWNR Molonglo River, a total of 1,055 eWasp spring queens were removed from the environment.

Table 3 shows the number of eWasp spring queens by location.

The results for Jerrabomberra Wetlands Nature Reserve are as follows; there were 22 traps deployed, a total of 1,055 spring queens were trapped and removed from the environment. JWNR The Causeway had the highest share of eWasp spring queens with 48% or 505.

The Amtech Grasslands program was broken up into two (2) locations, Jerrabomberra Creek and Grasslands, a total of 41 eWasp spring queens were removed from the environment.

Table 4 shows the number of eWasp spring queens by location.

The results for Amtech Grasslands are as follows; there were 9 traps deployed, a total of 41 spring queens removed from the environment. The Grasslands had the highest share of eWasp spring queens with 71% or 29.

European Wasp Impact

European wasps have a negative impact on our native species and environment. The European wasp has no predators, therefore putting pressure on native species by consuming substantial amounts of insects which are normally preyed upon by native insects, reptiles, and birds.

The above images are of eWasps foraging on a Kangaroo Carcass at Mulligans Flat Road in Forde, ACT, eWasps foraging on a prey mantis, and eWasps foraging on a Brown snake at Googong Dam, ACT.

Native scavenging animals find it difficult to feed off carcasses due to large numbers of European wasps present on the carcass. Flies have been observed being attacked by European wasps and at times their heads decapitated.

An average European wasp nest can contain an estimated 4,000 wasps during the peak of the season, between February - March, and each nest can produce and additional 1,000 queens at the end of the season; survival rate for spring queens is unknown, Dr Philip Spradbery' s research shows the queen survival rate was around 30%, but further studies would need to be conducted.

Through data collection, we have seen the European wasp favours areas where a body of water is present, e.g. rivers, creeks, ponds. The location is ideal due to a good supply of water, food and building materials for the nest's survival. It has been observed, through data collection, the European wasp will establish a nest near other nests, if the environment is ideal.

Through data collection, we have seen the European wasp favours areas where a body of water is present, e.g. rivers, creeks, ponds. The location is ideal due to a good supply of water, food and building materials for the growth and survival of the nest. Data has shown that the European wasp will establish a nest near other nests, if the location is ideal.

Nuisance wasps that forage in large numbers prevent the public from enjoying outdoor areas such as nature reserves, parks, and open spaces, and pose a considerable risk to public safety.

It is known that European wasp's impact European honey bee hives, they prey on honey bees returning to the hive, rob the hive of honey and attack the brood which weakens the hive. There is no information or evidence that supports the impact of native bee hives/species.

A publication in the New Zealand Journal of Zoology, 1991, stated the European wasp's diet consists of Diptera, fly & mosquito species, lepidopteran larvae, caterpillars – moths – butterflies, and arachnids, are also an important food, this was also documented in Europe and North America.

Benefits of a Spring Queen Trapping Program

The benefit of an eWasp spring queen trapping program is to minimise the impact the European wasp is having on native species and protect ecosystems.

Treating nests on average for a Ranger can take up to two hours, from set up, to treatment, to waiting for nest activity to settle down. There is also a considerable risk of a stinging incident occurring.

Tracking European wasps back to the nest is extremely time consuming and does not always pay off; most Rangers do not have the time and capacity for such a time-consuming task. Reported European wasp nests on public land are treated by ACT Parkes and Conservation Services, however, there are many nests that go unreported and untreated in the reserves, these nests produce next generation queens which continue to impact the environment.

From the 551 European wasp queens captured and removed from the environment, if all queens captured were to establish nests, 551 nests, the Parks and Conservation Services Ranger would have spent an estimated time of 1,102 hours or 138 working days treating nests, if a private company were to treat the nests at a cost of $220.00 per nest, the total cost would be $121,220.00

The European wasp spring queen trapping program has also reduced the quantity of insecticide used at Jerrabomberra East Grasslands Nature Reserve, 110kg of Permethrin dust, which benefits the environment and reduces the cost of purchasing insecticides.

The Vespex lure is a non-chemical carbohydrate that lures and traps European wasp spring queens and has proven minimal impact on the environment and native species.

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Data Overview

Weather

Table 1 shows the weather conditions at **Canberra Airport** for the months of October and November 2023 and 2024.

eWasp Program Weather Conditions		
Statistics	Oct-23	Nov-23
Highest daily	29.7 °C	33.3 °C
Lowest daily	14 °C	15.8 °C
Monthly mean	21.9 °C	25.5°C
Rainfall	32.6 mm	134.2 mm
Statistics	Oct-24	Nov-24
Highest daily	28.3 °C	31.5 °C
Lowest daily	15.5 °C	18.6 °C
Monthly mean	22.3 °C	22.3°C
Rainfall	18.8 mm	25.7 mm

Weather data obtained from the Bureau of Meteorology2.

- The weather conditions for October 2024 show an increase for the monthly mean by 1.8% and a decrease in rainfall by 42%.
- The weather conditions for November 2024 show a decrease for the monthly mean by 13% and an increase in rainfall of 81%.

More detailed weather observations can be found here.

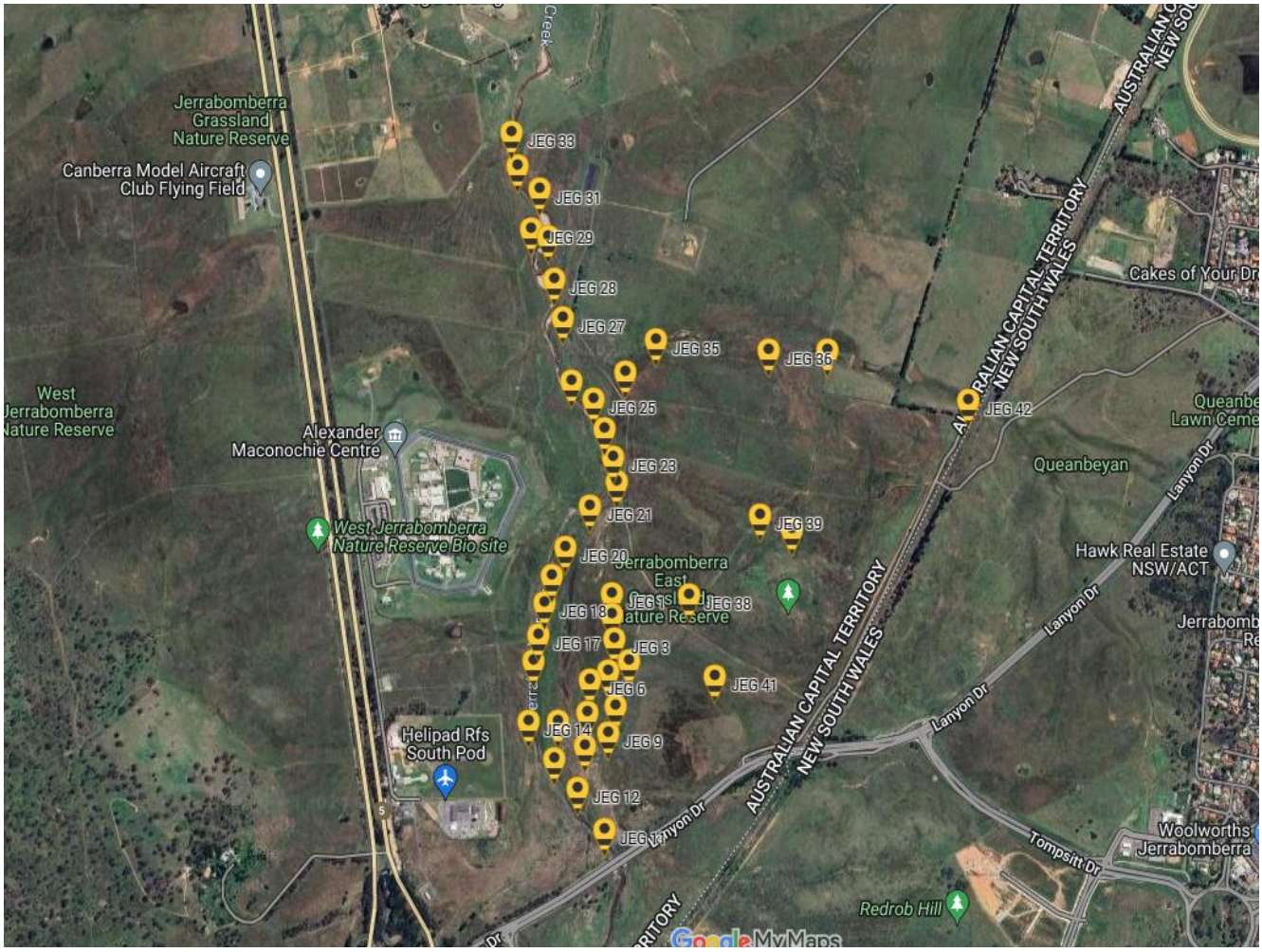
[2] Australian Capital Territory - Daily Weather Observations (bom.gov.au)

Trap Locations

The trapping program was broken up into two (2) areas. The program traps were deployed and monitored between 6 October - 27 November 2024.

- Jerrabomberra East Grasslands Nature Reserve
  Jerrabomberra Grasslands
  Traps JEG 1 – 24, JEG 38 - 42
- Jerrabomberra East Grasslands Nature Reserve
  Bonshaw
  Traps JEG 25 - 37

Map



eWasp Spring Queen Trap locations at Jerrabomberra East Grasslands Nature Reserve.

Program Data

Table 2 shows trap number, trap set up date, GPS coordinates and location/reserve, 2024.

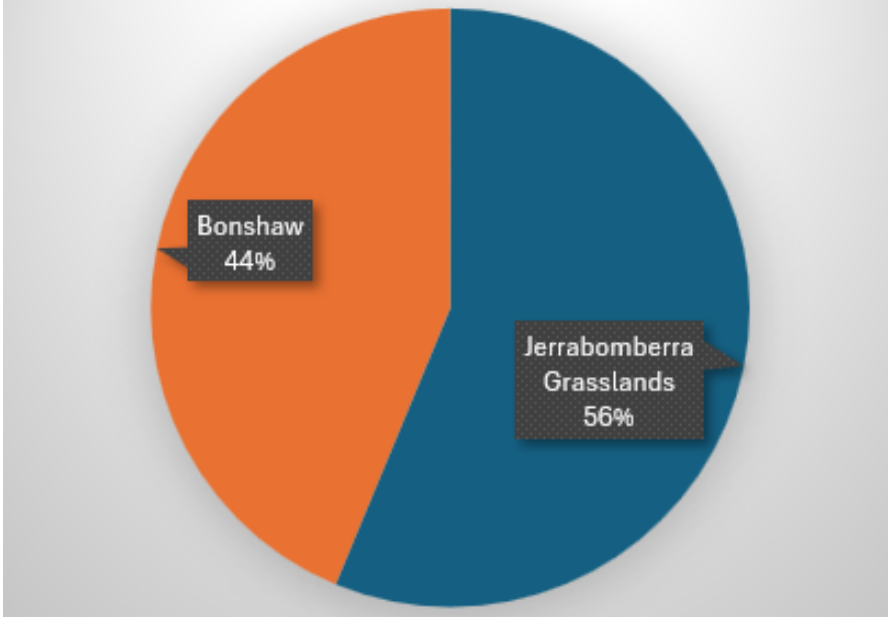
Trap Number	Set-up date	Latitude	Longitude	Location/Reserve
JEG 1	6/10/2024	-35.37379507	149.1781458	Jerrabomberra Grasslands
JEG 2	6/10/2024	-35.37436698	149.1781438	Jerrabomberra Grasslands
JEG 3	6/10/2024	-35.37502719	149.1782491	Jerrabomberra Grasslands
JEG 4	6/10/2024	-35.37561933	149.1787624	Jerrabomberra Grasslands
JEG 5	6/10/2024	-35.37587931	149.17801	Jerrabomberra Grasslands
JEG 6	6/10/2024	-35.37612343	149.1773971	Jerrabomberra Grasslands
JEG 7	6/10/2024	-35.37699931	149.1772818	Jerrabomberra Grasslands
JEG 8	6/10/2024	-35.37685333	149.1782802	Jerrabomberra Grasslands
JEG 9	6/10/2024	-35.37758569	149.1780147	Jerrabomberra Grasslands
JEG 10	6/10/2024	-35.37790827	149.1772275	Jerrabomberra Grasslands
JEG 11	6/10/2024	-35.38019878	149.1779007	Jerrabomberra Grasslands
JEG 12	6/10/2024	-35.37907718	149.1769432	Jerrabomberra Grasslands
JEG 13	6/10/2024	-35.37826556	149.1761214	Jerrabomberra Grasslands
JEG 14	6/10/2024	-35.37724999	149.1752349	Jerrabomberra Grasslands
JEG 15	6/10/2024	-35.37724179	149.1762511	Jerrabomberra Grasslands
JEG 16	6/10/2024	-35.37562397	149.1753902	Jerrabomberra Grasslands
JEG 17	6/10/2024	-35.37490472	149.1755611	Jerrabomberra Grasslands
JEG 18	6/10/2024	-35.37405123	149.1757962	Jerrabomberra Grasslands
JEG 19	6/10/2024	-35.37329396	149.176061	Jerrabomberra Grasslands
JEG 20	6/10/2024	-35.37254024	149.1765207	Jerrabomberra Grasslands
JEG 21	6/10/2024	-35.37140103	149.1773944	Jerrabomberra Grasslands
JEG 22	6/10/2024	-35.37074107	149.178347	Jerrabomberra Grasslands
JEG 23	6/10/2024	-35.37009887	149.1782055	Jerrabomberra Grasslands
JEG 24	6/10/2024	-35.36933254	149.1779051	Jerrabomberra Grasslands
JEG 25	6/10/2024	-35.36850551	149.1775084	Bonshaw
JEG 26	6/10/2024	-35.36802241	149.1767252	Bonshaw
JEG 27	6/10/2024	-35.36632102	149.1764191	Bonshaw
JEG 28	6/10/2024	-35.36524488	149.1761388	Bonshaw
JEG 29	6/10/2024	-35.36389395	149.1753248	Bonshaw
JEG 30	6/10/2024	-35.36411322	149.175941	Bonshaw
JEG 31	6/10/2024	-35.36281696	149.1756077	Bonshaw
JEG 32	6/10/2024	-35.36217989	149.174846	Bonshaw
JEG 33	6/10/2024	-35.36127048	149.1746492	Bonshaw
JEG 34	6/10/2024	-35.36776022	149.1786423	Bonshaw
JEG 35	6/10/2024	-35.366894	149.179722	Bonshaw
JEG 36	6/10/2024	-35.36716447	149.1836664	Bonshaw
JEG 37	6/10/2024	-35.36719291	149.1857254	Bonshaw
JEG 38	6/10/2024	35.37031457	149.1801028	Jerrabomberra Grasslands
JEG 39	6/10/2024	-35.37167251	149.1833359	Jerrabomberra Grasslands
JEG 40	6/10/2024	-35.37203912	149.1844631	Jerrabomberra Grasslands
JEG 41	11/10/2024	-35.376023	149.181781	Jerrabomberra Grasslands
JEG 42	11/10/2022	-35.368539	149.190665	Jerrabomberra Grasslands

Table 3 shows the total count by location.

Location	Totals
Jerrabomberra Grasslands	310
Bonshaw	241
Grand Total	**551**

Jerrabomberra Grasslands had the highest count of eWasp queens with 56% or 310.

Chart 5 shows the share of eWasp spring queens by location.



Jerrabomberra Grasslands had the highest share of eWasp spring queens with 56% and Bonshaw had a share of 44%.

Table 4 shows the count of eWasp spring queens by location, trap number.

Location & eSQ Trap Number	Totals
JEG - Jerrabomberra Grasslands	**310**
JEG 1	4
JEG 2	5
JEG 3	4
JEG 4	5
JEG 5	1
JEG 6	2
JEG 7	3
JEG 8	10
JEG 9	9
JEG 10	17
JEG 11	55
JEG 12	3
JEG 13	19
JEG 14	13
JEG 15	7
JEG 16	27
JEG 17	9
JEG 18	20
JEG 19	22
JEG 20	5
JEG 21	9
JEG 22	7
JEG 23	5
JEG 24	7
JEG 38	5
JEG 39	5
JEG 40	7
JEG 41	13
JEG 42	12
JEG Bonshaw	**241**
JEG 25	12
JEG 26	1
JEG 27	63
JEG 28	5
JEG 29	63
JEG 30	66
JEG 31	2
JEG 32	1
JEG 33	3
JEG 34	13

Location & eSQ Trap Number	Totals
JEG 35	0
JEG 36	7
JEG 37	5
Grand Total	**551**

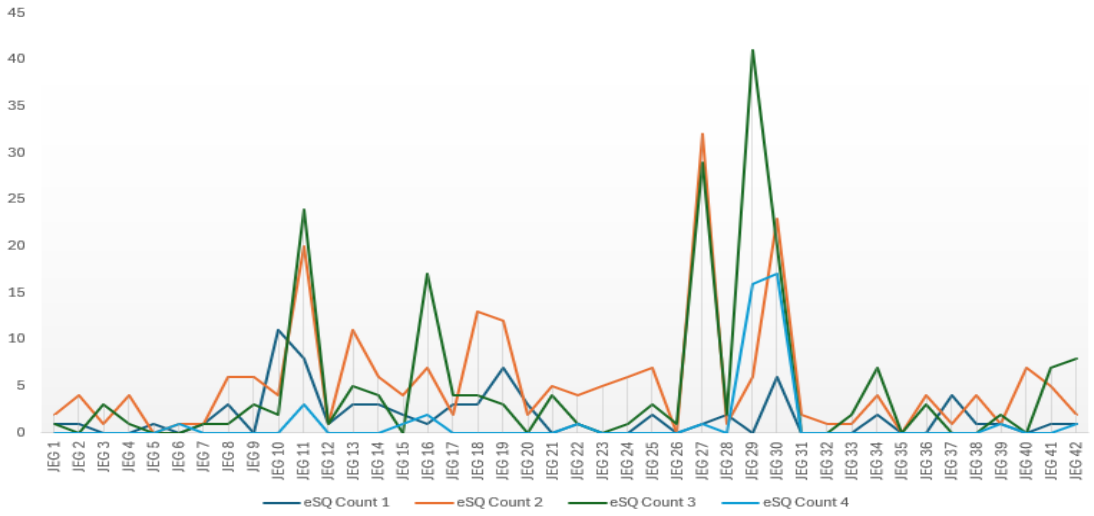
Trap JEG 30 had the highest number of eWasp spring queens with 12% or 66.

Table 5 shows the count of eWasp spring queens by trap number, 2024.

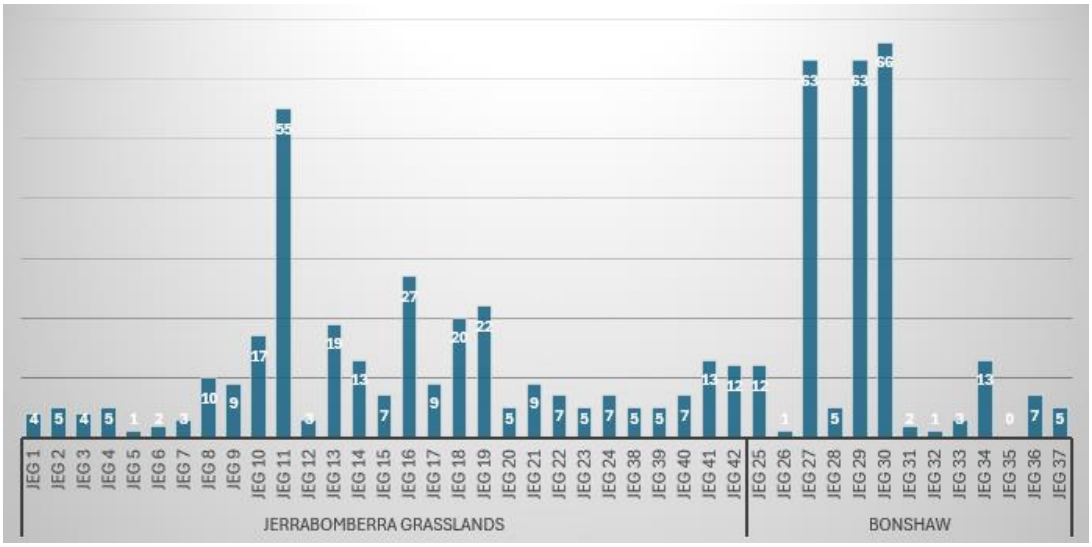
Trap Number	eSQ Count 1	eSQ Count 2	eSQ Count 3	eSQ Count 4	Totals
JEG 1	1	2	1	0	4
JEG 2	1	4	0	0	5
JEG 3	0	1	3	0	4
JEG 4	0	4	1	0	5
JEG 5	1	0	0	0	1
JEG 6	0	1	0	1	2
JEG 7	1	1	1	0	3
JEG 8	3	6	1	0	10
JEG 9	0	6	3	0	9
JEG 10	11	4	2	0	17
JEG 11	8	20	24	3	55
JEG 12	1	1	1	0	3
JEG 13	3	11	5	0	19
JEG 14	3	6	4	0	13
JEG 15	2	4	0	1	7
JEG 16	1	7	17	2	27
JEG 17	3	2	4	0	9
JEG 18	3	13	4	0	20
JEG 19	7	12	3	0	22
JEG 20	3	2	0	0	5
JEG 21	0	5	4	0	9
JEG 22	1	4	1	1	7
JEG 23	0	5	0	0	5
JEG 24	0	6	1	0	7
JEG 25	2	7	3	0	12
JEG 26	0	0	1	0	1
JEG 27	1	32	29	1	63
JEG 28	2	1	2	0	5
JEG 29	0	6	41	16	63
JEG 30	6	23	20	17	66
JEG 31	0	2	0	0	2
JEG 32	0	1	0	0	1
JEG 33	0	1	2	0	3

JEG 34	2	4	7	0	13
JEG 35	0	0	0	0	0
JEG 36	0	4	3	0	7
JEG 37	4	1	0	0	5
JEG 38	1	4	0	0	5
JEG 39	1	1	2	1	5
JEG 40	0	7	0	0	7
JEG 41	1	5	7	0	13
JEG 42	1	2	8	1	12
Totals	**74**	**228**	**205**	**44**	**551**

Chart 6 shows the count of eWasp spring queens from the first to fourth count.



eSQ Count 2 had the highest number of eWasp spring queens with 41% or 228, followed by eSQ Count 3 with 37% or 205.



Asian Paper Wasp Data

During the 2024 eWasp Spring Queen Trapping program, more than half of the traps, 74%, caught Asian paper wasp queens, *Polistes chinensis*.

2024 Asian Paper Wasp Queen Count

Table 6 shows the total count of Asian paper wasp spring queens by trap number, 2024.

Trap Number	Totals
JEG 1	1
JEG 2	4
JEG 3	1
JEG 4	0
JEG 5	8
JEG 6	5
JEG 7	3
JEG 8	2
JEG 9	2
JEG 10	0
JEG 11	1
JEG 12	4
JEG 13	4
JEG 14	0
JEG 15	1
JEG 16	1
JEG 17	0
JEG 18	1
JEG 19	3
JEG 20	0
JEG 21	3
JEG 22	11
JEG 23	6
JEG 24	0
JEG 25	6
JEG 26	0
JEG 27	4
JEG 28	1
JEG 29	1
JEG 30	12
JEG 31	0
JEG 32	2
JEG 33	1
JEG 34	2
JEG 35	0
JEG 36	2

Trap Number	Totals
JEG 37	7
JEG 38	0
JEG 39	2
JEG 40	2
JEG 41	11
JEG 42	0
Total	**114**

There was a total of 112 Asian paper wasps caught and removed from the environment.

Nests can produce several next generation queens, it may be a handful, several dozen, or more, depending on factors such as environmental conditions, and the health and size of the colony. More research needs to be conducted.

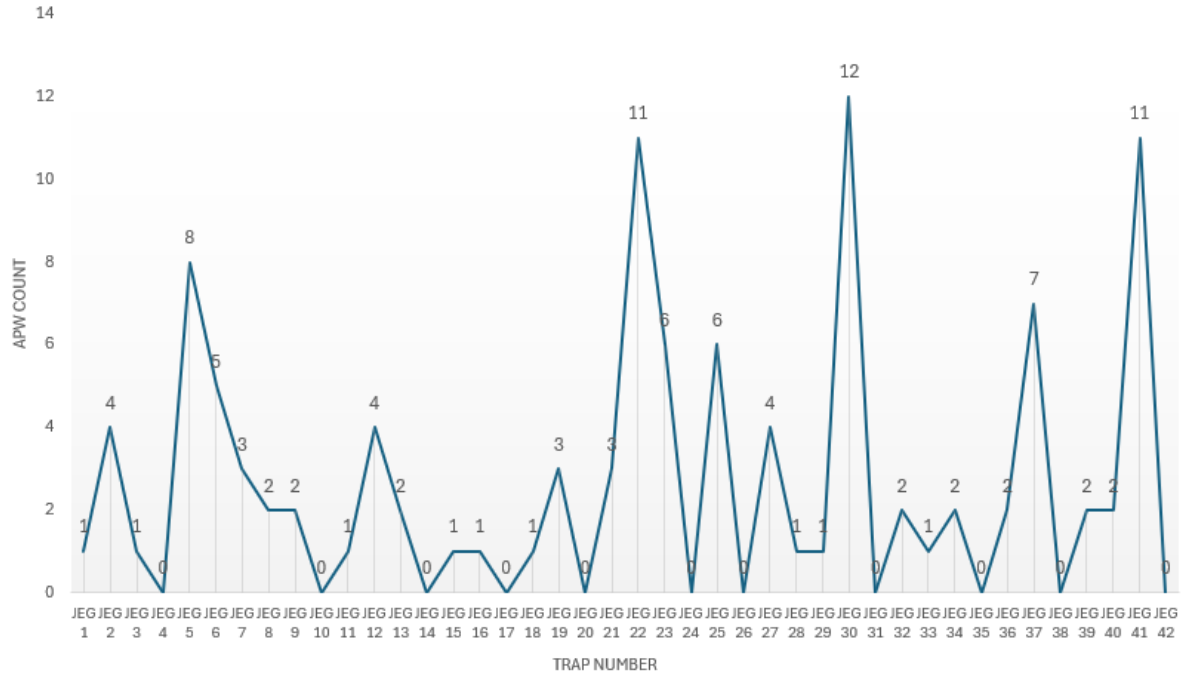
Table 7 shows the count of Asian paper wasps spring queens by trap and count number.

Trap Number	APW Count 1	APW Count 2	APW Count 3	APW Count 4	Totals
JEG 1	1	0	0	0	1
JEG 2	2	1	1	0	4
JEG 3	0	0	1	0	1
JEG 4	0	0	0	0	0
JEG 5	5	3	0	0	8
JEG 6	3	0	2	0	5
JEG 7	1	0	1	1	3
JEG 8	1	0	1	0	2
JEG 9	1	0	1	0	2
JEG 10	0	0	0	0	0
JEG 11	0	0	0	1	1
JEG 12	3	1	0	0	4
JEG 13	0	1	0	1	4
JEG 14	0	0	0	0	0
JEG 15	0	1	0	0	1
JEG 16	1	0	0	0	1
JEG 17	0	0	0	0	0
JEG 18	0	0	1	0	1
JEG 19	0	0	3	0	3
JEG 20	0	0	0	0	0
JEG 21	0	2	0	1	3
JEG 22	7	2	2	0	11
JEG 23	3	2	1	0	6
JEG 24	0	0	0	0	0
JEG 25	4	2	0	0	6
JEG 26	0	0	0	0	0
JEG 27	1	2	1	0	4

Trap Number	APW Count 1	APW Count 2	APW Count 3	APW Count 4	Totals
JEG 28	0	0	1	0	1
JEG 29	0	1	0	0	1
JEG 30	2	10	0	0	12
JEG 31	0	0	0	0	0
JEG 32	0	2	0	0	2
JEG 33	0	0	1	0	1
JEG 34	1	0	1	0	2
JEG 35	0	0	0	0	0
JEG 36	0	1	0	1	2
JEG 37	0	0	6	1	7
JEG 38	0	0	0	0	0
JEG 39	2	0	0	0	2
JEG 40	0	0	1	1	2
JEG 41	0	1	5	5	11
JEG 42	0	0	0	0	0
Totals	**38**	**32**	**32**	**12**	**114**

Count 1 showed the highest number of Asian paper wasps caught and removed from the environment with 33% or 38.

Chart 7 shows the total count of Asian paper wasps by trap number.

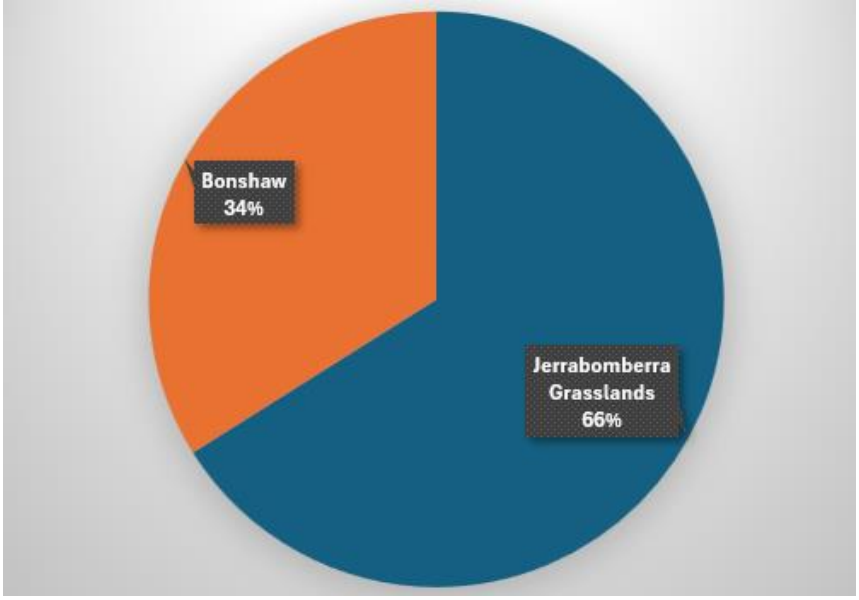


Trap JEG 30 had the highest count with 11% or 12, followed by JEG traps 22 and 41 with 10% or 11.

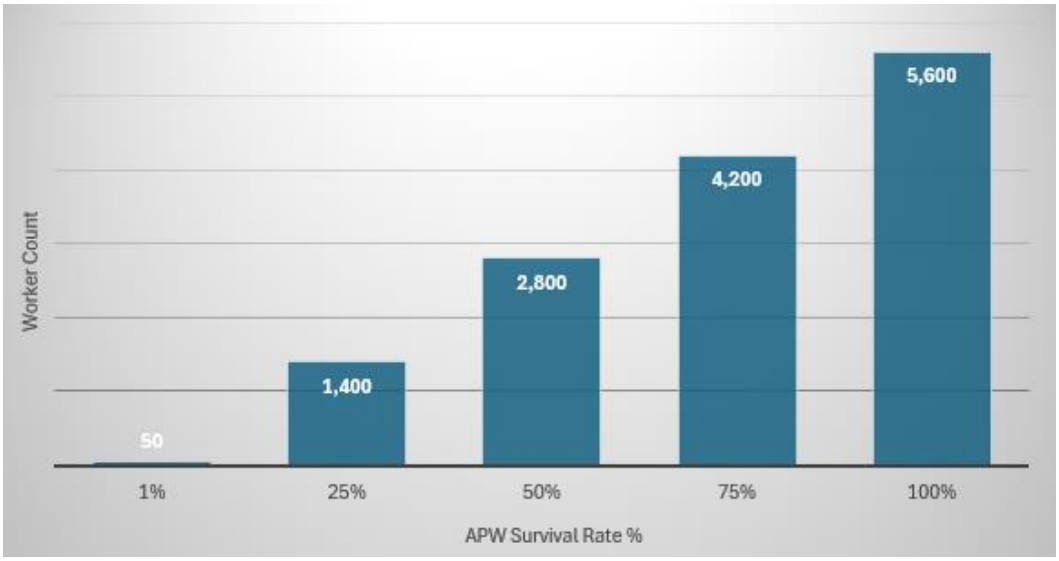
Results

There were 112 Asian paper wasp queens *Polistes chinensis* caught and removed from the environment.

Chart 8 shows the share of Asian paper wasp queens by location.



If the queens were to survive and establish nests, based on 50 wasps per nest, there would be an estimated 5,600 workers impacting the environment and based on 10 spring queens per nest, there would be an additional estimated 1,120 next generation queens.



There is no research reports of the Asian paper wasp and the potential impact on native ecosystems in Australia, further research is required on what they pray on in nature reserves and the extent of the impact they are having on native ecosystems.

eWasp Reporting

About the eWasp mobile app

The eWasp mobile app is an easy-to-use GPS mapping tool that allows the user to report a European wasp (eWasp) nest or sighting, European honey bee hive or swarm, Fire ant nest or sighting, by dropping a location pin on a map, on public, commercial & residential land. Users have access to submit a report with camera capability (take photo or upload), view map, insect information, ID an insect or arachnid with camera capability (take photo or upload), first aid & safety, listed pest control companies, the eWasp website and eWasp contact details. We feel we have covered what the public has requested, and with the ability to modify or add to the app when needed.

The eWasp app map displays active reports on public and commercial lands only, once the reports have been actioned, the location pin will be removed from the app map. The location of the nests and information will remain in the eWasp database. Users can use the app map to view/search locations for active reports; simply tap on the location pin and it will display the report type. e.g. eWasp nest, Fire ant nest, see image above. For more information on the eWasp app, please visit eWasp Mobile App - eWasp.

eWasp Research Programs & Information Centre

The eWasp Research Programs & Information Centre monitors the distribution of invasive species through data collection to create programs with the aim of protecting native and endangered species.

Through education, we believe we have saved numerous native species. eWasp is open Australia wide and with the support of the public, we believe we have and can further reduce the number of invasive species in and around suburban areas, and nature reserves.

European honey bee

European honey bee hive reporting was initially added to the app due to the volume of reports we were receiving.

We realised that having honey bee hives visible on the app map, and in the eWasp database, would be beneficial for public awareness, but in the event of a disease or pest outbreak such as the Varroa mite. If this were to occur, the data captured would assist in the inspection of hives and take any action that is required.

European honey bee swarm reporting allowed us to assist in the relocation of the hives, this was done in conjunction with the ACT Beekeepers Association. This in turn would keep the bees out of the environment, such as in wild hollow trees where native animals would normally take up residence.

Download on Google play Available on the App Store

The eWasp mobile app can be downloaded for free from both the App & Google Play stores.

Results by Location

Jerrabomberra East Grasslands Nature Reserve

Jerrabomberra Grasslands

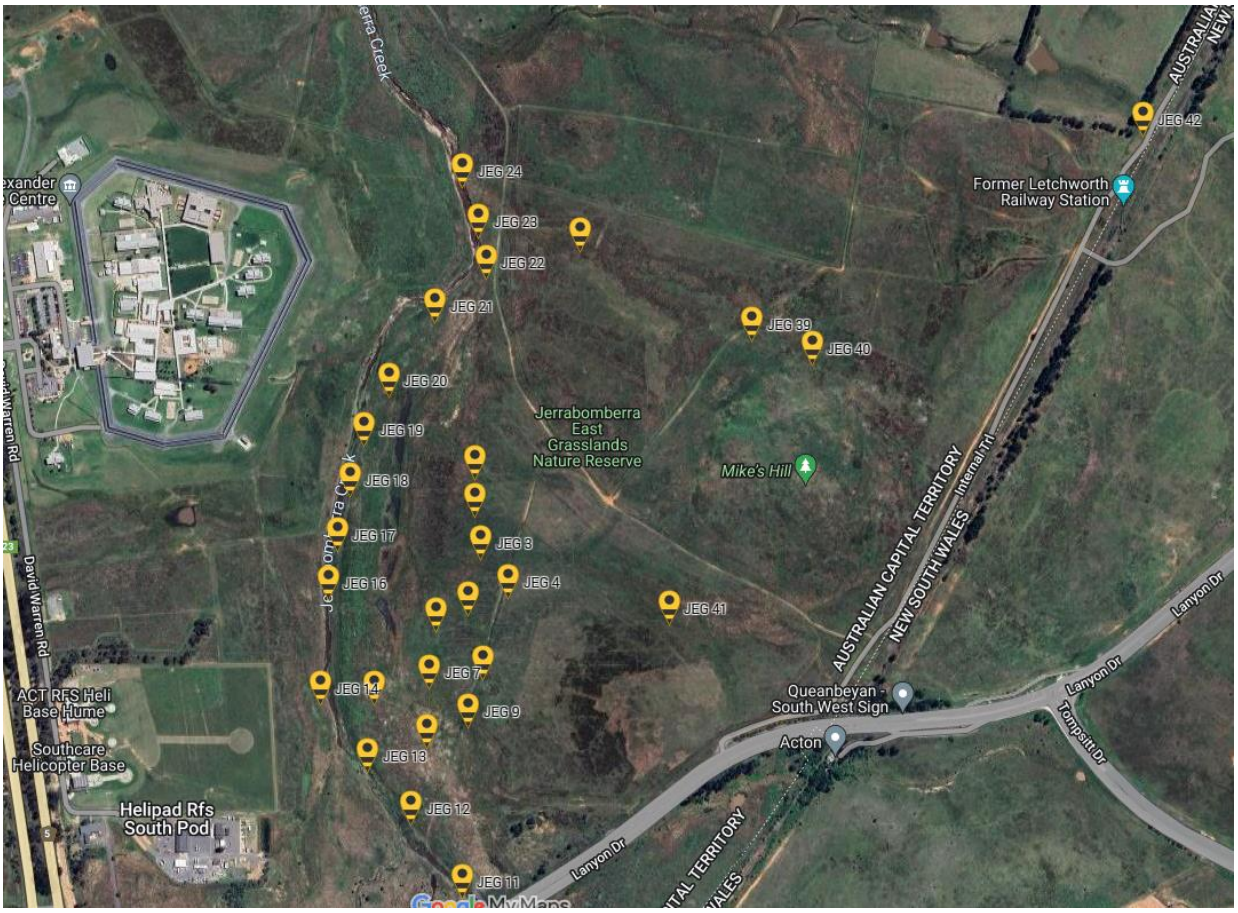
Background

Jerrabomberra East Grasslands Nature Reserve, Jerrabomberra Grasslands, is adjacent to the NSW residential border and ACT Industrial area. The eWasp activity in this area has negatively impacted Jerrabomberra NSW, and the Alexandar Maconochie Centre.

2024 eWasp Spring Queen Trap Locations

Trap Number	Latitude	Longitude	Location
JEG 1	-35.37379507	149.1781458	Jerrabomberra Grasslands
JEG 2	-35.37436698	149.1781438	Jerrabomberra Grasslands
JEG 3	-35.37502719	149.1782491	Jerrabomberra Grasslands
JEG 4	-35.37561933	149.1787624	Jerrabomberra Grasslands
JEG 5	-35.37587931	149.17801	Jerrabomberra Grasslands
JEG 6	-35.37612343	149.1773971	Jerrabomberra Grasslands
JEG 7	-35.37699931	149.1772818	Jerrabomberra Grasslands
JEG 8	-35.37685333	149.1782802	Jerrabomberra Grasslands
JEG 9	-35.37758569	149.1780147	Jerrabomberra Grasslands
JEG 10	-35.37790827	149.1772275	Jerrabomberra Grasslands
JEG 11	-35.38019878	149.1779007	Jerrabomberra Grasslands
JEG 12	-35.37907718	149.1769432	Jerrabomberra Grasslands
JEG 13	-35.37826556	149.1761214	Jerrabomberra Grasslands
JEG 14	-35.37724999	149.1752349	Jerrabomberra Grasslands
JEG 15	-35.37724179	149.1762511	Jerrabomberra Grasslands
JEG 16	-35.37562397	149.1753902	Jerrabomberra Grasslands
JEG 17	-35.37490472	149.1755611	Jerrabomberra Grasslands
JEG 18	-35.37405123	149.1757962	Jerrabomberra Grasslands
JEG 19	-35.37329396	149.176061	Jerrabomberra Grasslands
JEG 20	-35.37254024	149.1765207	Jerrabomberra Grasslands
JEG 21	-35.37140103	149.1773944	Jerrabomberra Grasslands
JEG 22	-35.37074107	149.178347	Jerrabomberra Grasslands
JEG 23	-35.37009887	149.1782055	Jerrabomberra Grasslands
JEG 24	-35.36933254	149.1779051	Jerrabomberra Grasslands
JEG 38	35.37031457	149.1801028	Jerrabomberra Grasslands
JEG 39	-35.37167251	149.1833359	Jerrabomberra Grasslands
JEG 40	-35.37203912	149.1844631	Jerrabomberra Grasslands
JEG 41	-35.376023	149.181781	Jerrabomberra Grasslands
JEG 42	-35.368539	149.190665	Jerrabomberra Grasslands

Mapped Traps



Traps JEG 1 – JEG 24, JEG 38 – JEG 42 deployed at Jerrabomberra East Grasslands Nature Reserve, Jerrabomberra Grasslands.

2024 eWasp Spring Queen Count

Table 8 shows the eWasp spring queens count by trap and count number.

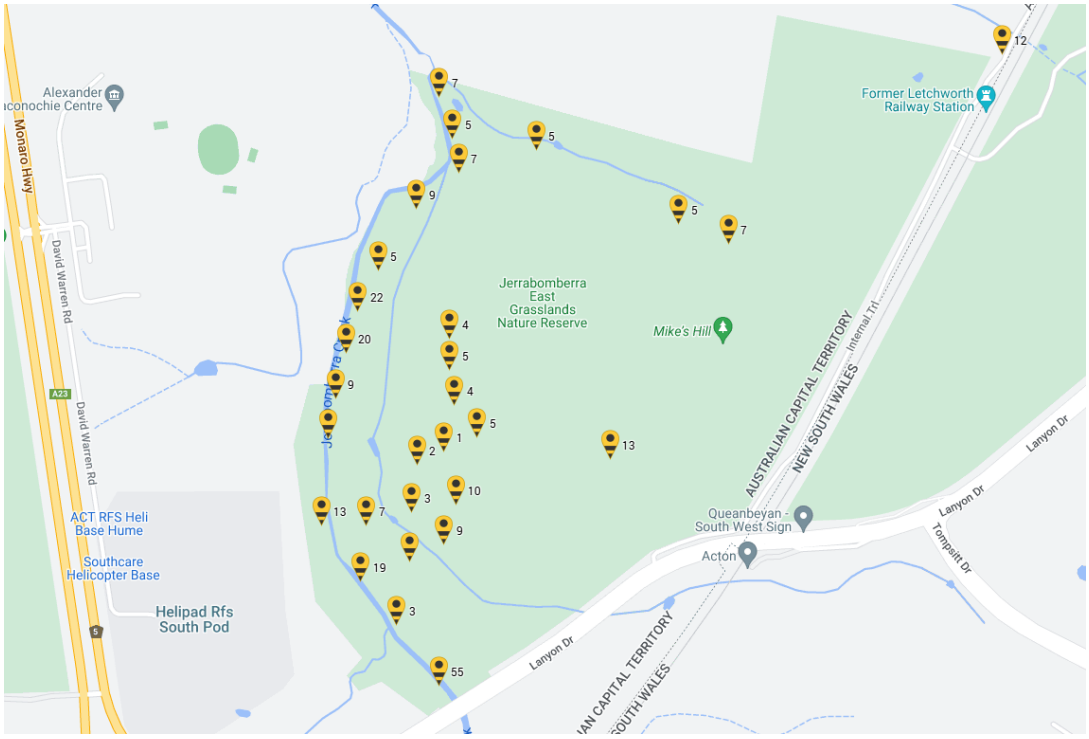
Trap Number	eSQ Count 1	eSQ Count 2	eSQ Count 3	eSQ Count 4	Totals
JEG 1	1	2	1	0	4
JEG 2	1	4	0	0	5
JEG 3	0	1	3	0	4
JEG 4	0	4	1	0	5
JEG 5	1	0	0	0	1
JEG 6	0	1	0	1	2
JEG 7	1	1	1	0	3
JEG 8	3	6	1	0	10
JEG 9	0	6	3	0	9
JEG 10	11	4	2	0	17
JEG 11	8	20	24	3	55
JEG 12	1	1	1	0	3
JEG 13	3	11	5	0	19

Trap Number	eSQ Count 1	eSQ Count 2	eSQ Count 3	eSQ Count 4	Totals
JEG 14	3	6	4	0	13
JEG 15	2	4	0	1	7
JEG 16	1	7	17	2	27
JEG 17	3	2	4	0	9
JEG 18	3	13	4	0	20
JEG 19	7	12	3	0	22
JEG 20	3	2	0	0	5
JEG 21	0	5	4	0	9
JEG 22	1	4	1	1	7
JEG 23	0	5	0	0	5
JEG 24	0	6	1	0	7
JEG 38	1	4	0	0	5
JEG 39	1	1	2	1	5
JEG 40	0	7	0	0	7
JEG 41	1	5	7	0	13
JEG 42	1	2	8	1	12
Totals	**57**	**146**	**97**	**10**	**310**
	Total Number of eWasp Spring Queens				310

Jerrabomberra East Grasslands Nature Reserve, Jerrabomberra Grasslands eSQ Count 2 had the highest count during the program period with 47% or 146.

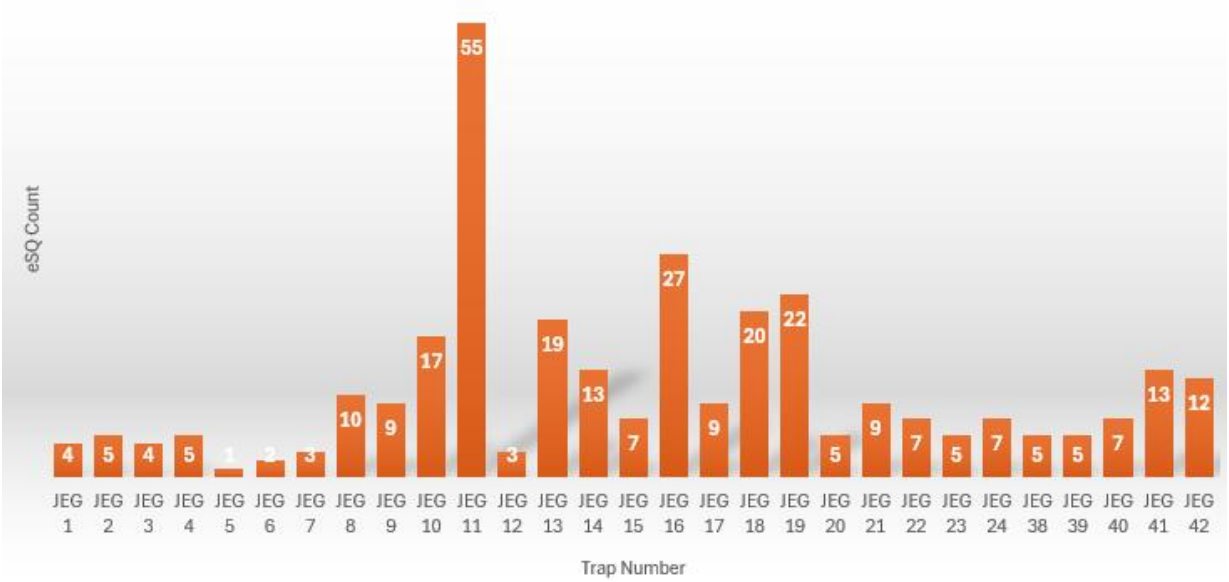
Mapped Counts

eWasp spring counts by trap number



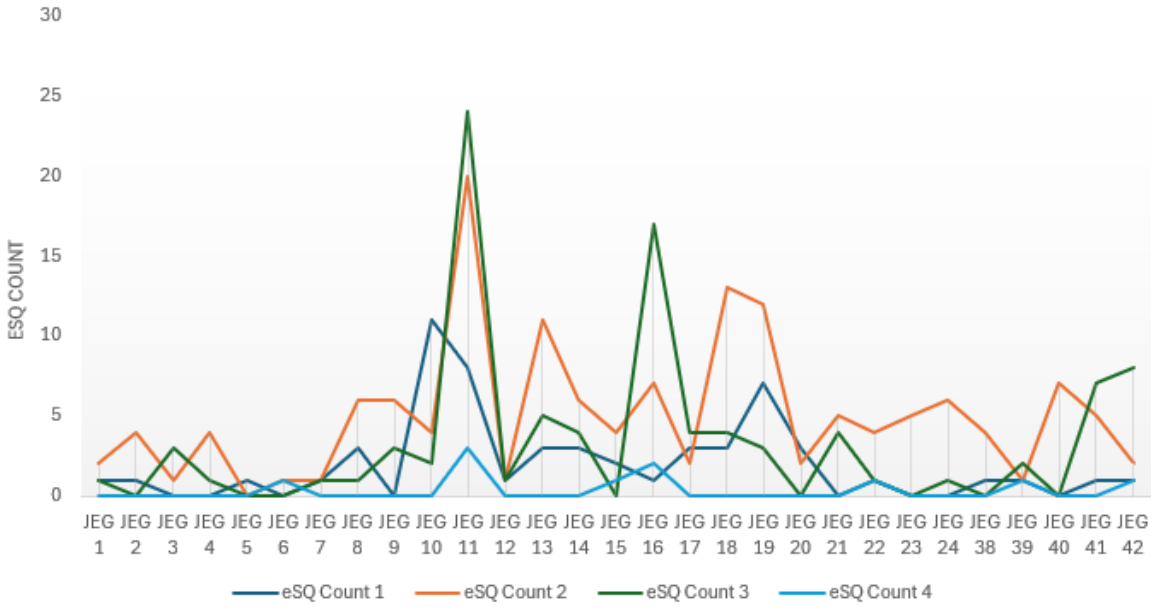
Results

Chart 9 shows the total count by trap number.



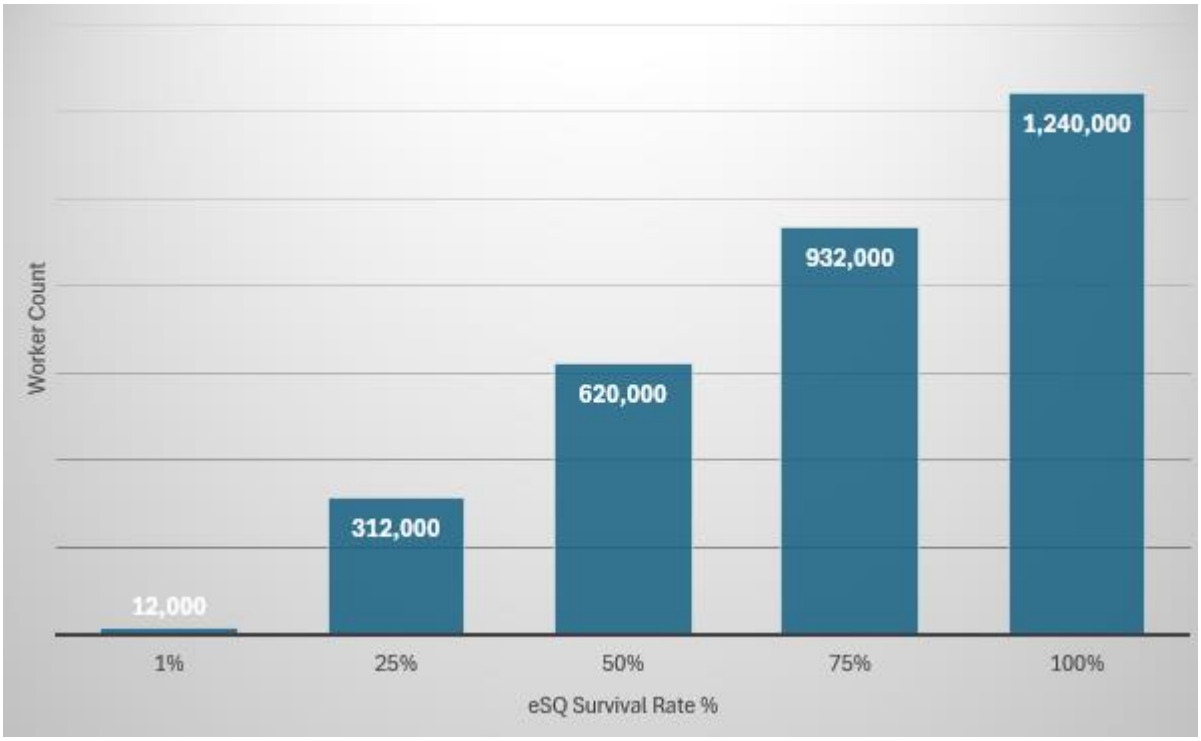
There were twenty-nine (29) traps deployed at Jerrabomberra East Grasslands Nature Reserve, Jerrabomberra Grasslands, which had a total of 310 spring queens trapped and removed from the environment during the program period.

Chart 10 shows the eSQ count by trap and count number.



From the 310 eWasp spring queens trapped and removed from the environment, JEG 11 had the highest count with 18% or 55.

Chart 11 shows the worker count by spring queen survival rate.



If all queens survived and established nests, there may have been an estimated 1,240,000 worker wasps and an estimated 93,000 next generation queens impacting the environment and surrounding areas.

Trap JEG 41, Jerrabomberra Grasslands, saw a total of 4% or 13 eWasp spring queens removed from the environment.

Jerrabomberra East Grasslands Nature Reserve
Bonshaw

Background

Jerrabomberra East Grasslands Nature Reserve, Bonshaw, is centrally located in the grasslands. Bonshaw supports a high diversity of native grass and forb species.

2024 eWasp Spring Queen Location

Trap Number	Latitude	Longitude	Location
JEG 25	-35.36850551	149.1775084	Bonshaw
JEG 26	-35.36802241	149.1767252	Bonshaw
JEG 27	-35.36632102	149.1764191	Bonshaw
JEG 28	-35.36524488	149.1761388	Bonshaw
JEG 29	-35.36389395	149.1753248	Bonshaw
JEG 30	-35.36411322	149.175941	Bonshaw
JEG 31	-35.36281696	149.1756077	Bonshaw
JEG 32	-35.36217989	149.174846	Bonshaw
JEG 33	-35.36127048	149.1746492	Bonshaw
JEG 34	-35.36776022	149.1786423	Bonshaw
JEG 35	-35.366894	149.179722	Bonshaw
JEG 36	-35.36716447	149.1836664	Bonshaw
JEG 37	-35.36719291	149.1857254	Bonshaw

Mapped Traps

Traps JEG 25 – JEG 37 deployed at Jerrabomberra Grasslands Nature Reserve, Bonshaw.

2024 eWasp Spring Queen Count

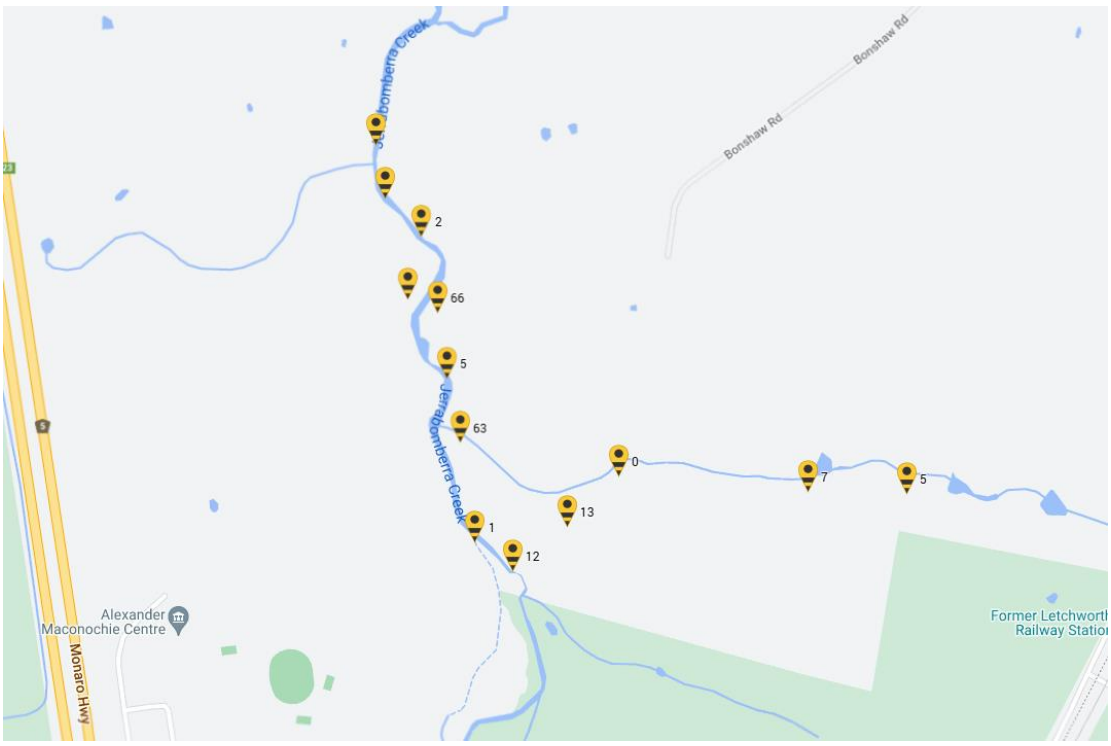
Table 9 shows the eWasp spring queens count by trap and count number.

Trap Number	eSQ Count 1	eSQ Count 2	eSQ Count 3	eSQ Count 4	Totals
JEG 25	2	7	3	0	12
JEG 26	0	0	1	0	1
JEG 27	1	32	29	1	63
JEG 28	2	1	2	0	5
JEG 29	0	6	41	16	63
JEG 30	6	23	20	17	66
JEG 31	0	2	0	0	2
JEG 32	0	1	0	0	1
JEG 33	0	1	2	0	3
JEG 34	2	4	7	0	13
JEG 35	0	0	0	0	0
JEG 36	0	4	3	0	7
JEG 37	4	1	0	0	5
Totals	**17**	**82**	**108**	**34**	**241**
	Total Number of eWasp Spring Queens				241

Jerrabomberra East Grasslands Nature Reserve, Bonshaw eSQ Count 3 had the highest count during the program period with 45% or 108.

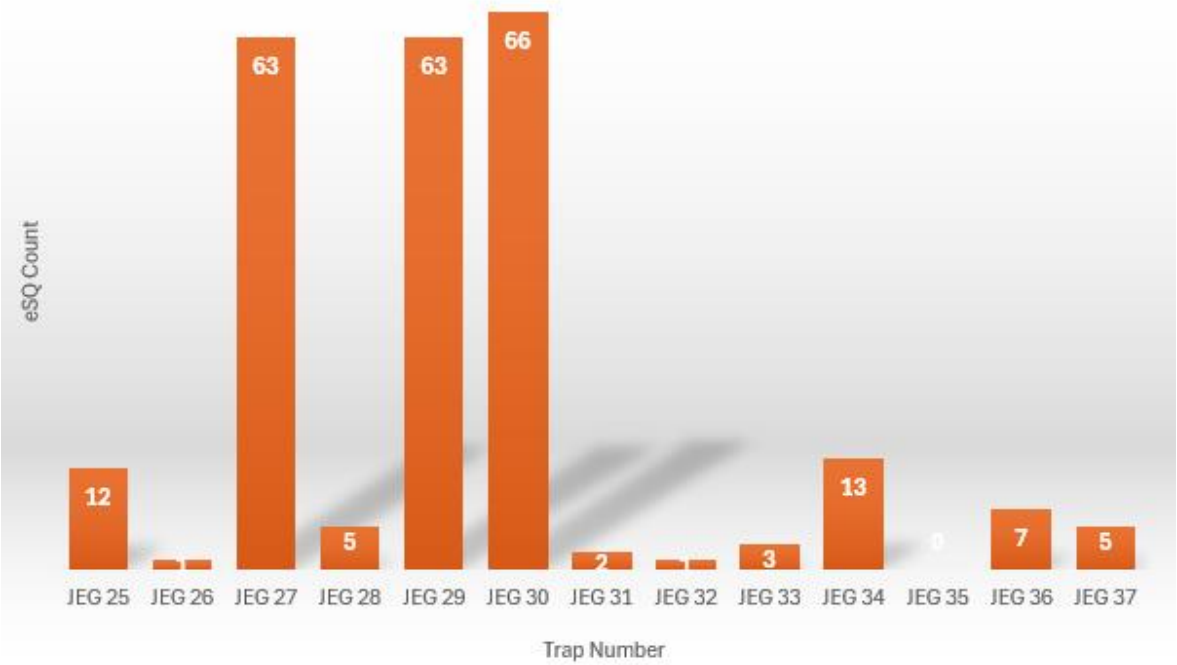
Mapped Counts

Mapped traps with counts.



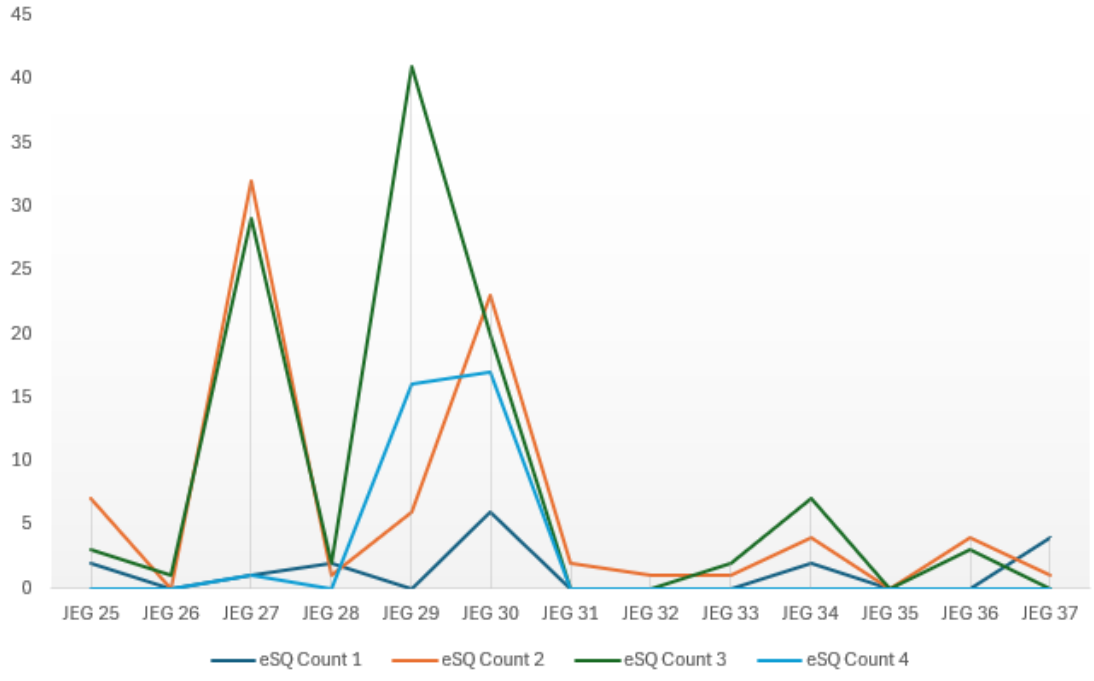
Results

Chart 12 shows the total count by trap number.



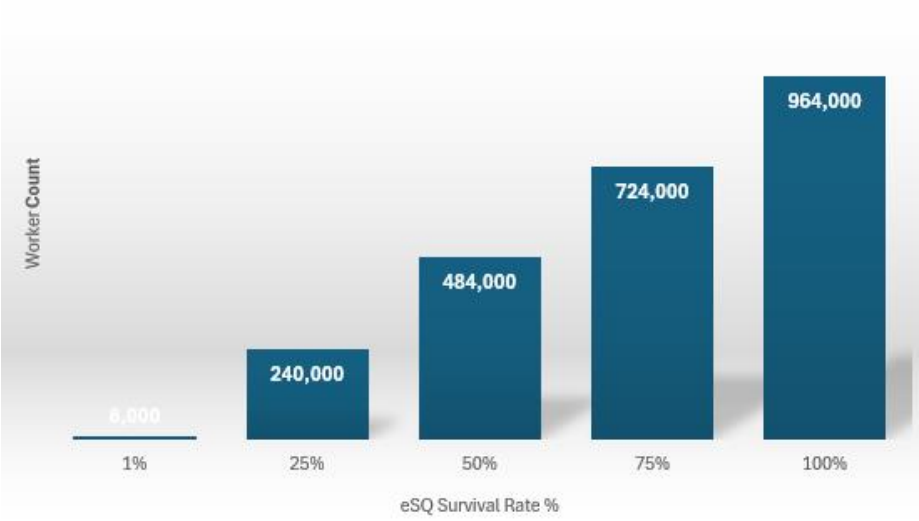
There were thirteen (13) traps deployed at Jerrabomberra East Grasslands Nature Reserve, Bonshaw, which had a total of 241 spring queens trapped and removed from the environment during the program period.

Chart 13 shows the count by trap number and count number.



From the 241 eWasp spring queens trapped and removed from the environment, JEG 30 had the highest count with 27% or 66.

Chart 14 shows the worker count by spring queen survival rate.



If all queens survived and established nests, there may have been an estimated 964,000worker wasps and an estimated 72,300 next generation queens impacting the environment and surrounding areas.

Recommendation

From late January to March 2024, the eWasp population and activity should be high and noticeable, therefore, an inspection to identify and treat nests in Jerrabomberra East Grasslands Nature Reserve is recommended. This will prevent spring queens from emerging in spring 2025 and establishing nests.

If eWasp activity is high in January to early February, and nests cannot be located, a baiting program may be required.

It is recommended that eWasp spring queen trapping programs continue in the future to preserve the ecosystem in Jerrabomberra East Grasslands Nature Reserve. Due to queens still being trapped at the last count, a longer program would be more beneficial to the environment.

In spring 2025, it is recommended 3 - 4 spring queen traps are deployed to monitor spring queen activity, before commencing a full trapping program.

It is also recommended that PCS collaborate with TCCS in future trapping programs to preserve the ecosystems in ACT Nature Reserves and surrounding areas.

A significant number of Asian paper wasp queens were removed from the nature reserve; therefore, it is recommended more traps are deployed to capture Asian paper wasp queens; Asian paper wasp queens don't fly as far as European wasp queens from their hibernating site. Due to both Jerrabomberra East Nature Reserve and Amtech Grasslands having the Asian paper wasp present, it is recommended that trapping programs be conducted in other reserves where endangered invertebrates are present.

Report all nest and significant sightings to the eWasp team, this enables us to monitor the distribution of eWasps at Amtech Grasslands.

Weather Observations BOM

October 2024 Daily Weather Observations, Canberra, ACT

Canberra, Australian Capital Territory
October 2024 Daily Weather Observations
Observations from Canberra Airport.

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Tu	2.5	21.6	0.2			E	41	20:36	10.9	78	8	W	9	1024.3	20.1	41		NNW	22	1020.1
2	We	9.1	19.2	0			NE	39	13:17	14.5	69	8	ENE	20	1029.9	18.5	50	6	NNE	17	1028.0
3	Th	6.2	20.9	0			N	37	12:36	13.5	63	4	E	7	1030.4	20.2	39		NNE	19	1024.9
4	Fr	2.8	20.1	0			NW	44	10:34	13.2	74	6	W	4	1020.3	18.1	54	8	NNW	26	1013.8
5	Sa	12.3	20.0	5.8			NW	52	13:24	16.7	53	4	W	20	1008.3	18.1	43	5	WNW	28	1006.5
6	Su	9.4	17.5	0			WNW	61	05:59	14.4	55		WNW	41	1010.6	15.9	54	8	NW	24	1012.9
7	Mo	8.5	22.5	0			WNW	59	13:06	15.7	63		NW	19	1018.0	20.5	45	8	WNW	37	1015.9
8	Tu	7.4	17.0	0			E	43	19:29	9.9	74	8	SSE	17	1022.1	14.9	52	1	NE	17	1020.8
9	We	0.4	17.7	0			NE	33	14:32	9.3	62	8	ESE	11	1026.9	16.9	42	1	NE	13	1023.3
10	Th	-0.3	22.7	0			NNW	52	12:37	10.5	74		NW	4	1023.2	22.3	36		N	30	1019.1
11	Fr	4.4	24.9	0			NW	46	14:23	12.8	73	7	W	6	1024.6	23.7	37		NW	26	1019.5
12	Sa	9.9	19.6	0			NNE	39	14:09	11.0	60	8	SSE	19	1026.7	18.8	33		NNE	24	1024.6
13	Su	3.0	21.2	0			NNW	26	10:28	11.3	57		SSE	9	1026.7	20.2	29		N	13	1021.0
14	Mo	7.3	22.9	0			S	48	15:15	14.9	64	8	W	2	1019.7	19.3	52	8	S	19	1016.4
15	Tu	8.1	15.5	5.8			ENE	33	14:27	11.8	79	8	SE	13	1025.4	14.5	62	7	NE	20	1023.5
16	We	3.6	22.0	0			N	31	13:53	10.1	70		SSE	9	1022.3	20.8	45		N	17	1017.5
17	Th	4.6	25.0	0						12.7	75			Calm	1018.4						
18	Fr	12.7	21.9				NNW	61	12:04	15.7	100	7	NNE	15	1009.4	20.2	81	8	NNW	35	1003.2
19	Sa	11.7	24.4	6.8			SSE	31	16:37	16.1	86	3		Calm	1009.5	21.0	62	8	NNW	19	1011.1
20	Su	3.9	26.3	0.2			SSE	37	09:58	14.8	57		SSW	13	1019.9	24.8	29		SSW	19	1017.4
21	Mo	5.2	24.1	0			NNE	33	16:17	13.3	65		SSE	13	1023.7	23.0	34		S	9	1018.5
22	Tu	4.1	26.8	0			NNW	30	15:15	9.7	99	8	SE	6	1017.7	26.3	36		N	19	1013.1
23	We	8.1	24.1	0			WSW	41	15:47	15.7	71	3		Calm	1012.6	23.3	43	8	NNW	17	1009.3
24	Th	6.5	21.5	0			NNW	46	14:53	15.8	43		NNW	13	1011.3	20.7	24		NNW	22	1008.9
25	Fr	1.3	18.9	0			ESE	28	16:24	10.3	69		WNW	4	1015.1	16.5	30	8	NW	7	1014.0
26	Sa	-1.3	19.3	0			N	33	15:22	9.1	40		SSE	15	1022.2	17.5	21		N	17	1018.3
27	Su	4.6	25.0	0			NW	41	13:35	11.7	65	5	S	7	1019.8	21.8	29	8	N	20	1016.3
28	Mo	3.7	27.7	0			WNW	54	11:31	13.6	60	4	NW	6	1018.5	26.7	17		NW	30	1015.4
29	Tu	7.2	25.6	0			N	35	14:16	14.2	64		NNW	2	1023.4	24.2	36		NNE	17	1019.3
30	We	9.9	28.3	0			W	44	14:26	15.1	73	3	SSW	7	1018.2	27.1	17		WNW	31	1012.6
31	Th	5.0	26.1	0			W	50	13:07	15.8	48	3		Calm	1011.5	23.8	23	8	WNW	30	1008.6
Statistics for October 2024																					
Mean		5.9	22.3							13.0	67	5		10	1019.7	20.7	39	6		21	1016.5
Lowest		-1.3	15.5							9.1	40	3		Calm	1008.3	14.5	17	1	NW	7	1003.2
Highest		12.7	28.3	6.8			#	61		16.7	100	8	WNW	41	1030.4	27.1	81	8	WNW	37	1028.0
Total				18.8																	

Observations were drawn from Canberra Airport (station 070351)
Some cloud observations are from automated equipment; these are somewhat different to those made by a human observer and may not appear every day.

IDCJDW2801.202410 Prepared at 16:01 UTC on 2 Dec 2024

November 2024 Daily Weather Observations, Canberra, ACT

Canberra, Australian Capital Territory
November 2024 Daily Weather Observations
Observations from Canberra Airport.

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Fr	9.3	24.0	0			E	50	17:28	16.1	61	1	NE	17	1015.5	22.3	33	4	NNE	13	1013.5
2	Sa	4.7	23.0	0			NE	35	16:28	12.7	66	8	SE	4	1023.0	20.8	43	2	NNE	11	1018.6
3	Su	8.1	31.4	0			NW	70	15:50	19.0	62	5	NW	24	1014.5	30.4	16	2	WNW	39	1009.9
4	Mo	12.4	27.0	0			NW	50	13:41	23.5	35	6	NNW	19	1011.3	24.7	26		NNW	31	1011.2
5	Tu	12.2	26.9	0			NE	35	17:08	14.8	76	8	NNE	11	1017.8	25.2	40	2	NNE	11	1013.6
6	We	9.0	32.3	0			NW	46	12:54	19.2	73		NW	2	1013.9	31.5	25	1	WNW	19	1010.4
7	Th	15.9	27.7	0			NNW	63	10:34	24.0	49	7	NNW	13	1009.0	26.0	34		WNW	31	1006.8
8	Fr	8.9	22.7	0			W	54	16:33	15.2	61	1	NW	20	1012.4	21.9	29	1	W	30	1011.0
9	Sa	6.0	25.3	0			N	37	12:31	16.4	61	8	N	9	1020.2	23.4	30	7	WNW	11	1016.8
10	Su	8.7	27.6	0			ESE	54	15:30	19.3	35		N	9	1020.8	27.3	22		WNW	13	1017.5
11	Mo	12.3	23.2	0						14.7	65	8	ESE	4	1021.9	21.6	45	3	NNE	11	1017.5
12	Tu	11.6	25.4				NE	37	16:22	17.5	69	8	ESE	7	1018.4	24.4	36	7	NE	19	1013.9
13	We	12.8	25.1	0			NNW	52	11:24	19.2	64		ENE	4	1012.5	23.0	47	6	WNW	20	1009.1
14	Th	7.8	26.8	0			SE	52	16:24	16.1	77	8	WSW	7	1016.1	24.1	41	1	NNE	15	1013.2
15	Fr	13.1	25.4	0						15.0	73	8	ENE	15	1021.4	21.9	43	5	E	15	1018.3
16	Sa	14.6	31.1	0			NE	52	17:32	18.8	64	4	NNE	6	1021.8	29.6	29	1	NW	13	1017.2
17	Su	12.3	27.5	0			NNW	57	10:16	22.6	63		WNW	9	1013.8	18.6	100	8	NW	26	1011.2
18	Mo	10.3	24.7	22.8			NW	46	11:28	16.0	47		NNW	22	1014.5	23.4	26		WNW	30	1014.1
19	Tu	8.4	26.3	0.2			E	48	17:17	15.6	69	8	WSW	7	1022.3	24.0	32		SE	9	1019.0
20	We	13.4	27.3	0			E	50	17:13	17.6	65		W	6	1023.5	26.2	33		SW	13	1020.5
21	Th	15.1	28.1	0			NW	33	12:44	19.3	56		NE	9	1026.3	27.0	33		NNW	17	1021.7
22	Fr	10.8	31.3	0			E	35	18:45	19.5	63		NW	6	1024.7	28.8	30	4	W	20	1020.1
23	Sa	12.9	33.5	0			NW	35	14:55	23.0	52			Calm	1021.7	32.6	22		WNW	17	1017.1
24	Su	12.1	34.3	0			NW	44	14:56	24.4	38	7	NNW	7	1018.3	32.7	24	5	NW	24	1014.5
25	Mo	12.6	35.3	0			N	50	14:10	21.9	55		WNW	6	1015.2	32.5	23	2	NNW	33	1010.8
26	Tu	15.7	32.8	0			NW	54	11:57	25.5	42	2	NW	13	1012.0	29.7	36	4	WNW	24	1010.4
27	We	16.2	28.2	0			NW	61	10:51	23.7	54	1	NW	22	1009.3	20.8	94	8	NNW	20	1009.9
28	Th	18.3	29.8	2.8			E	52	17:20	22.0	77	8	NW	13	1014.5	27.0	51		N	19	1013.2
29	Fr	15.1	22.3	0			E	33	15:50	20.1	74	8	E	13	1019.5	21.5	81	8	E	17	1017.0
30	Sa	17.3	19.7	14.8			ENE	37	11:16	19.0	98	8	NE	19	1010.6	19.6	99	7	N	15	1006.3
Statistics for November 2024																					
Mean		11.9	27.5							19.1	61	6		10	1017.2	25.4	40	4		19	1014.1
Lowest		4.7	19.7							12.7	35	1		Calm	1009.0	18.6	16	1	SE	9	1006.3
Highest		18.3	35.3	22.8			NW	70		25.5	98	8	NW	24	1026.3	32.7	100	8	WNW	39	1021.7
Total				40.6																	

Observations were drawn from Canberra Airport (station 070351)
Some cloud observations are from automated equipment; these are somewhat different to those made by a human observer and may not appear every day.

IDCJDW2801.202411 Prepared at 13:00 UTC on 2 Dec 2024

Weather statistics provided by the Bureau of Meteorology, Australian Government

Vespex European Wasp Lure

Acknowledgements

Jim Bariesheff, Director, CoreEnviro Solutions Pty Ltd; Data collection, environmental impact and recommendations.

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