

Locust Bulletin

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GENERAL SITUATION IN MARCH AND OUTLOOK TO SPRING 2022

Australian Plague Locust

Chortoicetes terminifera

The locust population increased moderately in inland eastern Australia. In addition to the persistent higher numbers in the Riverina district of New South Wales, population levels increased markedly in the arid interior.

Surveys in March identified consistent Scattered – Numerous-density adults in parts of the Channel Country of Queensland, with Isolated-density adults present in other parts of Queensland. Some Present-density nymphs were also detected in parts of the interior of Queensland. Surveys in South Australia identified two large Low-Density swarms of young adults in the Moomba area and frequent Numerous-density adults in north-eastern parts of the North East Pastoral district. Isolated-density adults with occasional Scattered density were detected in other parts of SA. A small band and several Sub-Band density nymphs were identified in the north Flinders Ranges with Present-density nymphs present in other parts of SA. Surveys in New South Wales identified persistent Scattered – Numerous-density adults in the Riverina district with some Present – Numerous-density nymphs detected. Constant Numerous-density adults were identified in the western part of Upper Western district with no nymphs detected. No locusts were detected in the North West and Central West districts. No surveys were conducted in Victoria but several reports were received from the north-western Victoria. The light trap at Fowlers Gap caught locusts on most nights with a peak capture in late March when 10 fold more were recorded at Dulkaninna but nil at White Cliffs. The insect monitoring radar at Hay detected several northward migrations in early and mid-March. The significant population increase in the arid interior of eastern Australia reflects a successful breeding of populations that redistributed and aggregated after the record rainfall event during late January – early February. The proportion of diapause eggs laid after mid-March increases with latitude and time, *i.e.* higher diapause rates of eggs would be laid by the adults in the southern part of inland eastern Australia towards the end of March.

March rainfall ranged from nil (west) to 100 mm (east) over inland eastern Australia and rated as average level generally with some areas at above average and very much above the average levels. Much of the arid interior received less than 25 mm rain. March mean temperatures were above average over much of inland eastern Australia with northern part more than two degrees above averages. The La Niña event has weakened slightly but still influences the weather and climate, with above median rainfall and cooler daytime temperatures forecast for April. Winter is forecast to have average rainfall but warmer temperatures. Vegetation conditions are likely to remain suitable for locust breeding over most parts.

The spring outlook is for a persistent moderate population with medium and localised high densities in the Riverina district of NSW and adjacent areas of the Lower Western district of NSW and the Mallee district of Victoria, plus some low to moderate populations with limited localised higher densities in other parts of inland eastern Australia. The overall locust population is likely to be at a low – moderate level in inland eastern Australia in the beginning of season 2022-23.

Some nymphs are likely to hatch from overwintering eggs in August and persist under favourable habitats in the sub-tropical Queensland where above average winter and spring rainfall is received. Localised high-density nymphs may develop from diapause eggs in the Riverina and adjacent areas from late September onwards. It is expected that some bands may develop and result in localised high-density spring populations in the Riverina and surrounding areas, with some early low – medium density nymphs in Queensland.

There is a low likelihood of widespread high-density populations and region-wide infestations developing in spring, but possible localised high-density populations and limited infestations may develop in parts of NSW.

8 April 2022

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Spur-throated Locust***Austracris guttulosa***

The population of Spur-throated locusts increased moderately in inland eastern Australia during March 2022. Surveys identified consistent adults of Isolated – High-Numerous densities with higher numbers in the northern part, plus Present – Numerous-density nymphs amongst which late instars were dominant but with all instars presented. The staggered instar stages reflect an extended breeding season. Nymphs were mainly found in Queensland. No reports were received but some adults were captured in APLC light traps. With suitable habitat conditions, existing nymphs should survive and may develop into some localised medium-high density adult infestations.

With a wet April expected in tropical and subtropical Queensland, a higher nymphal survival rate is likely and should result in more localised medium – high-density adults in the remainder of autumn and winter.

There is a medium risk of a widespread low-medium density infestation, and localised high-density infestations are likely to develop in affected areas of subtropical Queensland in the remainder of autumn and winter.

Migratory Locust***Locusta migratoria***

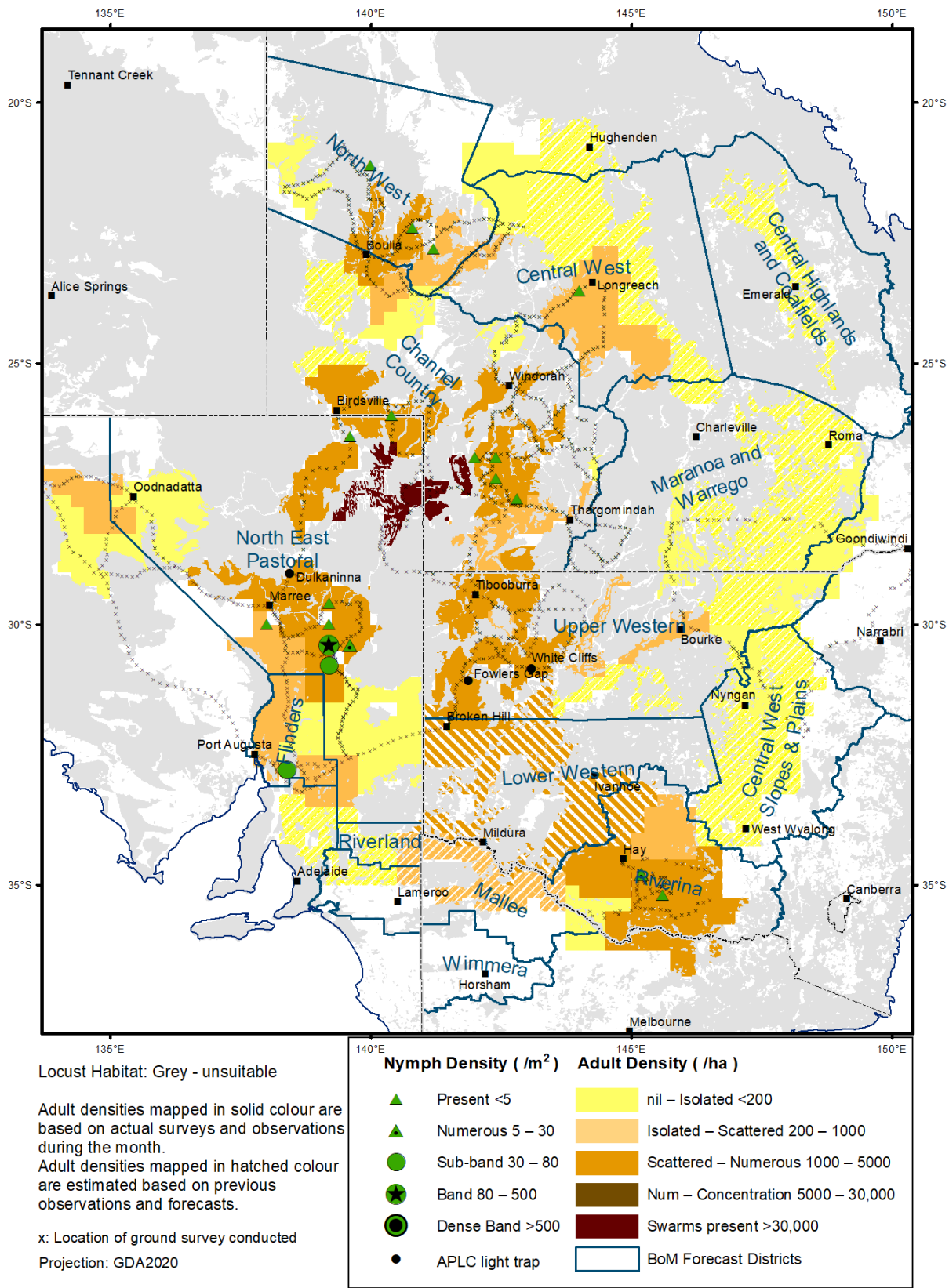
Surveys in March only identified a single occurrence of adult migratory locusts in the Darling Downs district of Queensland. However, under current favourable habitat conditions, breeding should have continued in the Central Highlands and surrounding areas of Queensland. Nevertheless, high-density gregarisation is unlikely to result from the previously very low population level.

There is a very low risk of a widespread infestation developing during the remainder of autumn and winter.

It is important that any locust activity be reported as soon as possible to your local biosecurity authority, primary industries department or to the commission. A toll-free call to the APLC hotline can be made on 1800 635 962. An answering machine is attached to this phone for after-hours calls. Reports can also be emailed to APLC via aplc@agriculture.gov.au or made through the website at https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts.

Locust distribution map—*Chortoicetes terminifera*

Australian Plague Locust Distribution
07 - 30 March 2022



Australian Plague Locust**(*Chortoicetes terminifera*)****SITUATION IN MARCH AND OUTLOOK TO SPRING 2022****NEW SOUTH WALES****NORTH WEST SLOPES & PLAINS****Northwest Local Land Services****Locusts and conditions**

- Surveys in late March did not identify any locusts in this district.
- No locust reports were received from this district in March.
- This district received 30 – 120 mm rainfall in January, at about average level over much of the district.

Forecast

- Only limited localised egg-laying is possible. Eggs laid from mid-March onwards will have an increasing proportion of diapause eggs that may commence hatching from late August to early September. The spring population density is expected to be at very low levels.
- There is a very low probability of any significant migration during the remainder of autumn.

Risks

- There is a very low risk of a widespread regional infestation developing during the remainder of autumn.

CENTRAL WEST SLOPES & PLAINS**Central West Local Land Services****Locusts and conditions**

- Surveys in the northern part of this district in late March did not identify any locusts.
- No locust reports were received from this district in March.
- This district received 20 – 100 mm rainfall in February, at average to very much above average levels.

Forecast

- Localised egg-laying is possible, and more diapause eggs is laid from mid-March onwards. The spring population, among which nymphal hatching from diapause eggs may be from early September onwards, is likely to remain very low levels.
- There is a very low probability of any significant migration during the remainder of autumn.

Risks

- There is a very low risk of widespread regional infestations developing during the remainder of autumn.

RIVERINA**Riverina, Murray, and part of Western Local Land Services****Locusts and conditions**

- Surveys in mid-March identified Isolated – Numerous-density adults persistent in the Jerilderie-Darlington Point-Hay-Deniliquin areas with Present – Numerous-density late-instar nymphs detected. Some adults had fat reserve and eggs developing. It was evident that some locusts had been parasitised by flies, fungi, and bacteria.
- The UNSW insect monitoring radar in Hay detected several northward movements in early and mid-March.
- This district received 15 – 80 mm rain in March and ranged at average to above average levels.

Forecast

- Small swarms may continue to form.
- More diapause eggs may be laid for overwintering from mid-March onwards. Spring generation nymphs may commence hatching from these diapause eggs from late September onwards.
- There is a moderate probability of redistribution/migration within the district and to adjacent regions under suitable weather patterns during the remainder of autumn.
- There is a moderate probability of localised high-density nymphs developing in spring.

Risks

- There is a low-moderate risk of a widespread infestation developing during the remainder of autumn.

UPPER and LOWER WESTERN**Western Local Land Services****Locusts and conditions**

- Surveys in late March identified frequent Scattered – Numerous-density adults in western part of the Upper Western district and Isolated to occasional Scattered-density adults in eastern part. No nymphs were spotted.
- No surveys were carried out in the Lower Western district in March.
- No locust reports were received from this district in February.
- The light trap at Fowlers Gap showed consistent captures of 1 – 4 locusts on most nights in March with a peak of 32 – 62 locusts per night during 26 – 29 March. The light trap at White Cliffs did not capture locusts in March.
- A noticeable increase in adult numbers in western part of this district indicates successful immigrations, redistributions/aggregation, and localised breeding.
- March rainfall ranged from nil – 25mm in north-western part to more than 25 mm with localised 70 – 80 mm over other parts of this district. Much of the district received about average rainfall, with localised parts at above average to very much above average levels.

Forecast

- Limited localised breeding is possible, and some nymphs may be still identified.
- Swarm formation may continue by fledging, aggregation, redistribution, and immigration.
- Locust population is likely to have a low-moderate increase from localised fledging and immigration.
- There is a high likelihood of migration from/to adjacent districts and within this district during the remainder of autumn.

Risks

- There is a moderate risk of a widespread infestation developing during the remainder of autumn.

All locust activity should be reported to your [Local Land Services](https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts) (1300 795 299) or the [Department of Primary Industries](https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts). A toll-free call to the APLC hotline can be made on 1800 635 962. An answering machine is attached to this phone for after-hours calls. Reports can also be emailed to APLC via aplc@agriculture.gov.au or sent through the web page at https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts.

QUEENSLAND

CENTRAL HIGHLANDS AND COALFIELDS**Isaac and Central Highlands Regional Councils; Banana Shire****Locusts and conditions**

- No surveys were conducted in this district in March.
- No reports of locust activity were received from this district in March.
- This district received 20 to 90 mm rainfall in February, at below average to average levels.

Forecast

- Localised breeding is possible under favourable habitats, but the population is likely to be at low levels based on previous low background population.
- There is a low probability of any significant migrations during the remainder of autumn.

Risks

- There is a low risk of a widespread infestation developing in the remainder of autumn.

DARLING DOWNS AND GRANITE BELT**Western Downs and Goondiwindi Regional Councils****Locusts and conditions**

- Surveys were only conducted in south-western part of this district and occasional Isolated-density adults were identified. No nymphs were detected.
- No locust reports were received from this district in March.
- This district received 25 to 150 mm rainfall in February, at average level over much of this district with parts above average to very much above average levels.

Forecast

- Some sporadic breeding is possible, but only a low-density population is expected.
- There is a low probability of any significant migrations in remainder of autumn.

Risks

- There is a low risk of a widespread infestation developing during the remainder of autumn.

CENTRAL WEST**Barcaldine, Longreach, and Blackall-Tambo Regional Council; Flinders and Winton Shires****Locusts and conditions**

- Surveys in south-western part of this district identified Isolated – Scattered-density adults with occasional nymphs detected.
- No locust reports were received from this district in February.
- This district received 5 – 90 mm rainfall in March with larger amount in the east, at average to above average levels.

Forecast

- Limited localised breeding may continue, and population level is likely to remain low.
- There is a low probability of redistribution and migration during the remainder of autumn.

Risks

- There is a low risk of a widespread infestation in the remainder of autumn.

MARANOA AND WARREGO

Maranoa Regional Council; Murweh, Paroo, and Balonne Shires

Locusts and conditions

- Surveys in the southern part of this district in late March identified Isolated-density adults with occasional Scattered-density adults. No nymphs were detected.
- No locust reports were received from this district in March.
- This district received 5 – 60 mm rainfall in March, at average level over much of the district.

Forecast

- Locust numbers are likely to remain low with some localised breeding possible.
- There is a low probability of migration during the remainder of autumn.

Risks

- There is a low risk of a widespread infestation developing during the remainder of autumn.

NORTH WEST

Mt Isa, Cloncurry, McKinlay, Boulia, and Winton Shires

Locusts and conditions

- Surveys in early March identified Isolated-density adults with occasional Low-Numerous density adults. Some Present-density nymphs were detected.
- No locust reports were received from this district in March.
- Less than 15 mm rainfall were received in district in March, at very much below average to below average levels.

Forecast

- Limited sporadic breeding is possible, and locust numbers are likely to remain low.
- There is a low-medium probability of migration/redistribution activity during the remainder of autumn.

Risks

- There is a low risk of a widespread infestation developing during the remainder of autumn.

CHANNEL COUNTRY

Boulia, Diamantina, Barcoo, Quilpie, and Bulloo Shires

Locusts and conditions

- Surveys in late March identified consistent Scattered – Numerous-density adults with some Present-density nymph over much of this district.
- No locust reports were received from this district in March.
- This district received 10 to 60 mm rainfall in March, at average level over much of this district except for the Quilpie area where above average rainfall received.

Forecast

- Limited breeding may continue along drainages and other suitable habitats. Locust numbers are likely to increase low-moderately from successful breeding, dispersal, and migration.
- There is a moderate probability of migration activity during the remainder of autumn.

Risks

- There is a moderate risk of a widespread infestation developing during the remainder of autumn.

All locust activity should be reported the [Biosecurity Queensland \(Department of Agriculture and Fisheries\)](#) via the [Customer Service Centre](#) on 13 25 23. A toll-free call to the APLC hotline can be made on 1800 635 962. An answering machine is attached to this phone for after-hours calls. Reports can also be emailed to APLC via aplc@agriculture.gov.au or sent through the website at https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts.

SOUTH AUSTRALIA

NORTH EAST PASTORAL and FLINDERS**Locusts and conditions**

- Surveys in late March identified consistent Scattered – Numerous-density adults over much of the north-eastern part of this district with two Low-Density swarms of young adults that had some fat reserve. Some Present – Band-density nymphs were also detected with band and sub-bands discovered in the Arkaroola-Balcanaona areas. Higher numbers appeared in the north of Flinders Ranges.
- The Dulkaninna light-trap was not functional during 17 – 26 March, but captured 427, 513, and 203 locusts on the nights of 27 – 29 March.
- No locust reports were received from this district in March.
- This district received less than 10 mm rainfall over much of the region with parts having more than 30 mm in March, at average level generally with parts below or above average levels.

Forecast

- Limited sporadic breeding may continue under some suitable habitats.
- Swarm formation may continue.
- Locust numbers are likely to increase low – moderately after successful immigration and breeding under suitable weather systems and favourable habitat conditions.
- There is a moderate probability of migration during the remainder of autumn.

Risks

- There is a moderate risk of a widespread infestation developing during the remainder of autumn.

RIVERLAND and MURRAYLANDS**Locusts and conditions**

- No surveys were conducted in this district in March.
- Some locust reports were received from this district in March.
- March rainfall ranged 5 – 30 mm, generally at average level with the south-eastern part at above average level.

Forecast

- The locust population is likely to remain at low densities.
- There is a low – moderate probability of migration during the remainder of autumn.

Risks

There is a low risk of a widespread infestation developing during the remainder of autumn.

Locust activity should be reported to [Biosecurity SA \(Primary Industries and Regions South Australia\)](#) via the Plant Health Hotline on 1300 666 010. A toll-free call to the APLC hotline can be made on 1800 635 962. An answering machine is attached to this phone for after-hours calls. Reports can also be emailed to APLC via aplc@agriculture.gov.au or sent through the website at https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts.

VICTORIA

MALLEE**Mildura and Swan Hill Rural Cities; Yarriambiack and Buloke Shires****Locusts and conditions**

- No surveys were conducted in this district in March.
- Some locust reports were received from this district in March and Agriculture Victoria has been in investigation.
- March rainfall was 15 – 40 mm, at above average level over much of this district.

Forecast

- Locust numbers are likely to remain at low-moderate levels if no further significant immigrations.
- Any eggs laid after mid-March will have a proportion entering diapause, and spring generation nymphs may hatch from these diapause eggs from late September onwards.
- There is a low – moderate probability of migration during the remainder of autumn.

Risks

- There is a low – moderate risk of a widespread infestation developing during the remainder of autumn.

WIMMERA**Hindmarsh and West Wimmera Shires****Locusts and conditions**

- No surveys were conducted in this district in March.
- Some locust reports were received from this district in March and Agriculture Victoria has been in investigation.
- March rainfall was 30 – 70 mm, at above average level over much of this district with localised very much average level.

Forecast

- Locust numbers are likely to remain at low levels if no significant immigration.
- Any eggs laid after mid-March will have a proportion of diapause eggs, which may hatch into nymphs from mid-September onwards.
- There is a low – moderate probability of migration during the remainder of autumn.

Risks

- There is a low – moderate risk of a widespread infestation developing during the remainder of autumn.

Locust activity should be reported to the [Agriculture Victoria Customer Contact Centre](https://forms.bio.vic.gov.au/2020) on 136 186. Alternatively, you can make a report via the online form at <https://forms.bio.vic.gov.au/2020>. Please include photos where possible. A toll-free call to the APLC hotline can be made on 1800 635 962. An answering machine is attached to this phone for after-hours calls. Reports can be emailed to APLC via aplc@agriculture.gov.au or sent through the website at https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts.

Glossary of locust terms and density categories used in the Locust Bulletin

Locust biology and behaviour

Term	Definition
adult	A fully winged, mature locust capable of breeding and migrating
band	Dense aggregation of nymphs, usually moving forward together
diapause	Period of dormancy induced in anticipation of unfavourable environmental conditions
egg bed	An area of soil containing many egg pods (hundreds per square metre)
fledge	Final nymphal moult to a soft-bodied adult incapable of long-distance flight
instar	Discrete stages of nymphal development each separated by a moult
laying	Female locusts depositing clutches of 20 – 60 eggs into the ground in froth-lined egg pods
nymph	Juvenile wingless locust. Often referred to as the hopper stage
swarm	Dense aggregation of adults, milling at the same spot or flying closely together

Locust density categories

Where higher densities occur, a large proportion of the regional population is concentrated in very small areas with lower densities elsewhere, so the higher densities cannot be extrapolated over the area of an entire region. A range of density classes is usually found within a surveyed region.

Nymph Densities	Number per m ²		
Present	1	–	5
Numerous	6	–	30
Sub-band	31	–	80
Band	81	–	500
Dense Band	>500		

Adult Densities	Number per m ²			Number per 250 m ²		
Isolated		–	0.02	1		5
Scattered	0.024	–	0.1	6	–	25
Numerous	0.104	–	0.5	26	–	125
Concentration	0.504	–	3	126	–	750
Low Density Swarm	4	–	10	751	–	2,500
Medium Density Swarm	11	–	50	2,501	–	12,500
High Density Swarm	>50			>12,500		

General density classes	Nymph densities			Adult densities		
very low, occasional	Nil	–	Present	Nil	–	Isolated
low	Present	–	Numerous	Isolated	–	Scattered
medium	Numerous	–	Sub-band	Scattered	–	Numerous
high	Bands			Concentration	–	Swarms

Reporting locust infestations

It is important that all locust activity is reported as soon as possible to your nearest state agriculture agency office or to the Australian Plague Locust Commission.

State	Authority for reporting locusts
New South Wales	Local Land Services (LLS) or Department of Primary Industries
Queensland	Biosecurity Queensland, Department of Agriculture and Fisheries
South Australia	Biosecurity SA, Department of Primary Industries & Regions
Victoria	Biosecurity and Agriculture Services, Department of Jobs, Precincts and Resources

Reports to the **Australian Plague Locust Commission** can be made by:

Free call (Canberra): 1800 635 962 (24 hours)

Fax (Canberra): (02) 6272 5074

Email: aplc@agriculture.gov.au

Website: https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts