

# Locust Bulletin

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## GENERAL SITUATION IN OCTOBER AND OUTLOOK TO JANUARY 2022

### Australian Plague Locust

### *Chortoicetes terminifera*

The locust population in inland eastern Australia is generally at low levels except for the Riverina district of New South Wales where high numbers were identified. Limited surveys in the Longreach region of Queensland detected Isolated-density adults and Present-density late-instar nymphs in mid-August. Surveys in late-September detected persistent Isolated-density adults in the Central West, North West and Channel Country districts of Queensland but no nymphs detected. Surveys in mid-October identified frequent Isolated-density adults with occasional late-instar nymphs in the Central West and Central Highlands districts, but only occasional adults detected in parts of Darling Downs and Maranoa and Warrego districts of Queensland. Surveys in late October identified frequent Isolated – Scattered-density adults and up to Band-density mid-instar nymphs in the Riverina district, with occasional Isolated-density adults and Present-density nymphs in parts of Central West and Western districts of New South Wales. Biosecurity Queensland conducted ground surveillance in September in the Central West, Central Highlands, Maranoa and Warrego, and Darling Downs districts, and detected Isolated – Scattered-density adults only. The light-trap in White Cliffs captured one locust on the night of 6 October, 120 and over 1000 on the two consecutive nights of 5 – 7 November, reflecting some localised population movement. There was one hatching report in early September from an area about 70 km north of White Cliffs, which could not be verified due to travel restrictions. Several hatching reports were confirmed to have some early instar nymphs by NSW Local Land Service staff in the White Cliffs-Fowlers Gap-Wilcannia areas at the end of September, with a further 17 nymphal bands verified by LLS staff since October. Almost half of these bands were located in the Murray LLS region while the remainder were in the North West, Central West, Western, and Riverina LLS regions. An adult female with fully developed eggs was identified by Agriculture Victoria staff in Bendigo on 2 October. No surveys were conducted in South Australia nor in Victoria.

Rainfall distribution for September showed a SE-NW gradient over inland eastern Australia, ranging from over 50 mm (very much above average) down to nil. In October less than 25 mm rain (average to below average) fell in the interior, with higher falls along the eastern edge of the interior. September temperatures were average to below average in New South Wales, but above average in other States. October temperatures were above average to very much above average in Queensland, but below average in the southern part of New South Wales. A La Niña alert continues and weak La Niña conditions are likely (70%) for the coming months. Above-average rainfall is likely for eastern Australia during late spring and into summer, most likely above median rainfall for the inland with cooler than median temperature for November. December rainfall is likely average for the arid interior but above median to the east. January is forecast above median rainfall over the whole inland eastern Australia. With more rain forecast in the southern part of inland eastern Australia, habitat conditions should continue to improve for locust breeding.

The outlook for the remainder of 2021 is for an increase in overall population level, with widespread medium to high densities possible in the NSW Riverina district and adjacent areas but limited to localised populations present in other States. It is likely that some swarm formation will occur from late November onwards, resulting in a larger summer generation following successful breeding and migration.

There is a moderate likelihood of more widespread high-density populations and region-wide infestations developing during late spring and early summer.

12 November 2021

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

Surveys revealed low – medium-density adults present in sub-tropical Queensland. Surveys in mid-August detected consistent occurrences of Isolated – Scattered-density adults in the Longreach region, Isolated-density adults in late September in the Central West, North West and Channel Country districts of Queensland, and in late October up to Numerous – Concentration-density adults in the Central West and Central Highlands districts, and Isolated – Scattered-density adults in parts of Darling Downs, and Maranoa and Warrego districts of Queensland. Biosecurity Queensland conducted ground surveillance in September and detected low – medium-density adults in the Central West, Central Highlands, Maranoa and Warrego, and Darling Downs districts. There was an unconfirmed report of nymphal sighting from tropical Queensland.

With sufficient rainfall in tropical and sub-tropical Queensland, it is possible for an early season breeding event to result with more localised medium – high-density nymphs.

There is a medium risk of a widespread low-medium density infestation, and localised high-density infestations may develop in subtropical Queensland during late spring and summer.

**Migratory Locust*****Locusta migratoria***

Surveys in late October detected occasional Isolated-density adults and Present-density nymphs in the Emerald region of Queensland. Improved habitat conditions in the Central Highlands and the Darling Downs districts of Queensland may have encouraged some continuous breeding. High-density gregarisation is unlikely to result from the current very low background level.

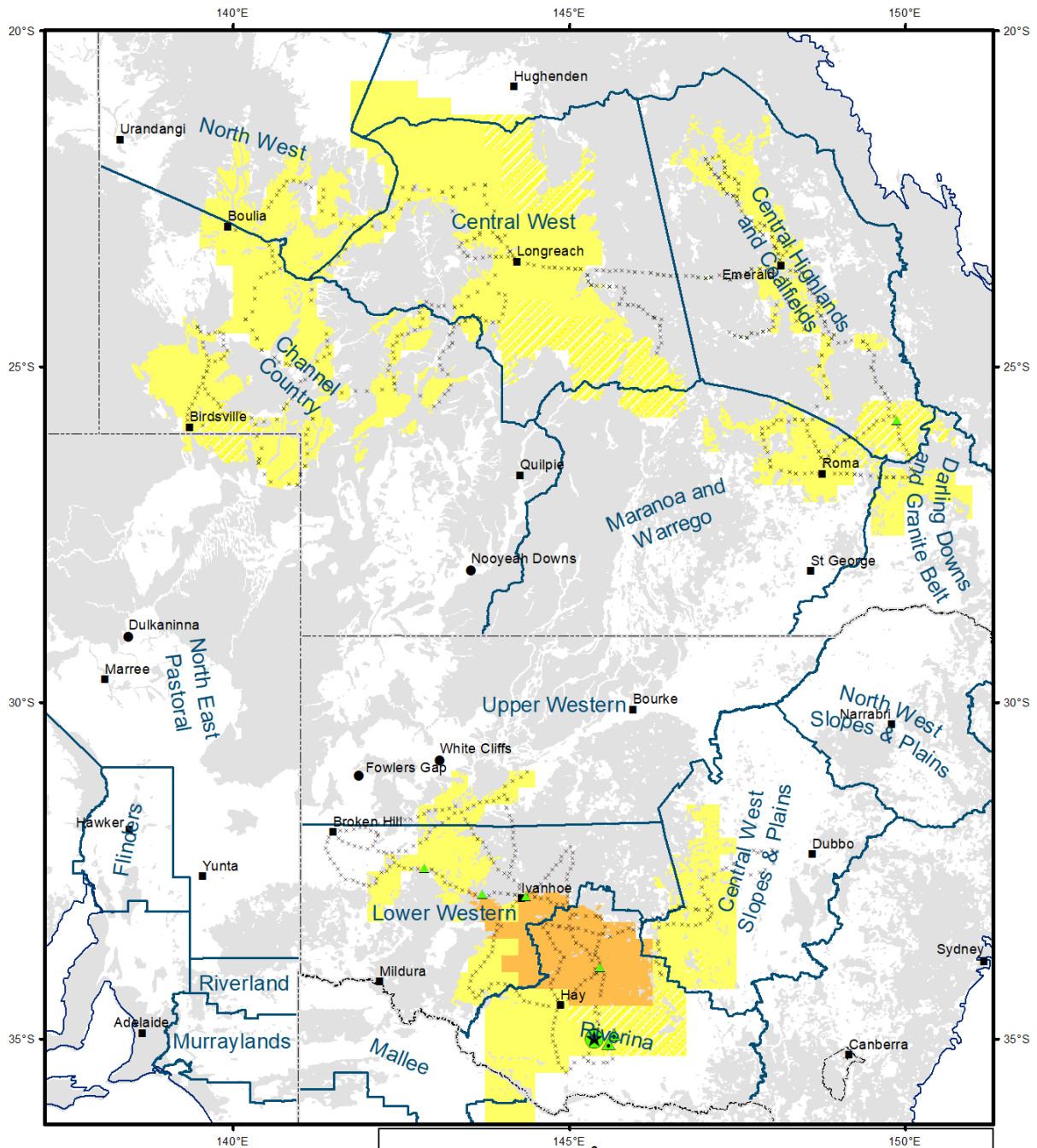
There is a very low risk of a widespread infestation developing during late spring and summer.

**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](mailto:aplc@agriculture.gov.au) or made through the website at [https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting\\_locusts](https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts).**

**Locust distribution map—*Chortoicetes terminifera***

**Australian Plague Locust Distribution**

20 September - 28 October 2021



Locust Habitat: Grey - unsuitable

Adult densities mapped in solid colour are based on actual surveys and observations during the month.  
 Adult densities mapped in hatched colour are estimated based on previous observations and forecasts.

x: Location of ground survey conducted

Projection: GDA2020

Nymph Density ( /m <sup>2</sup> )		Adult Density ( /ha )	
▲ Present <5	▲ Numerous 5 – 30	■ nil – Isolated <200	■ Isolated – Scattered 200 – 1000
● Sub-band 30 – 80	● Band 80 – 500	■ Scattered – Numerous 1000 – 5000	■ Num – Concentration 5000 – 30,000
● Dense Band >500	● APLC light trap	■ Swarms present >30,000	■ BoM Forecast Districts

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

- No surveys were conducted within this region.
- LLS officers have inspected 3 locust reports with confirmed bands since mid-October.
- This region received at least 25 mm with most parts over 50 mm rain in September, ranging from average to very much above average. October rainfall was a similar amount but at the historic average level.

**Forecast**

- Undetected and uncontrolled bands could form localised swarms from late November onwards, but the general population density is expected to be at low – medium levels.
- There is a low probability of significant migration during late spring and early summer, but there may be some short-distance population exchanges with adjacent areas under suitable weather conditions.

**Risks**

- There is a low risk of a widespread regional infestation developing during late spring and early summer.

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

- Surveys in late October identified only Isolated-density adults in the Condobolin region.
- LLS officers investigated two reports of band sightings from the Lake Cargelligo and Nymagee areas in mid-October.
- This region received at least 25 mm rainfall in September with over 50 mm in northern parts and was generally above average level. October rainfall was between 25 and 50 mm in most parts except for the north-eastern corner, generally at the historic average level.

**Forecast**

- Undetected localised bands could form swarms from late November onwards.
- There is a low probability of immigration from the North West Slopes & Plains into this district during late spring, and some short-distance emigration to adjacent west or southwest areas is possible under suitable weather conditions.

**Risks**

- There is a low risk of widespread regional infestations developing during late spring and early summer.

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

- Surveys in late October identified consistent Isolated – Scattered-density adults in the northern part of this district, and occasional Isolated-density adults in other parts. Higher numbers of 2<sup>nd</sup> – 3<sup>rd</sup>-instar

nymphs up to Band-density were detected in the Four Corners area (between Jerilderie and Hay) with similarly aged nymphs in other parts.

- LLS officers confirmed more than a dozen reports of hatching and banding sighting since early October.
- The UNSW insect monitoring radar in Hay did not detect any locust migration.
- Most parts of this region received more than 50 mm of rain in September. The rainfall level was above to very much above average. October rainfall was between 10 and 25 mm in most parts (average level).

#### Forecast

- Undetected and uncontrolled bands could form swarms from late November onwards.
- There is a low to moderate probability of migration from and to adjacent regions in late spring and early summer.

#### Risks

- There is a low to moderate risk of a widespread infestation developing during late spring and early summer.

## UPPER and LOWER WESTERN

### Western Local Land Services

#### Locusts and conditions

- Surveys in late October identified only occasional Isolated-density adults and Present-density nymphs in the Broken Hill-Wilcannia-Ivanhoe-Balranald areas, with more frequent occurrence in the Ivanhoe region.
- LLS officers inspected 7 hatching reports in late September in the White Cliffs-Fowlers Gap-Wilcannia areas and confirmed some locusts among grasshopper species. A locust band was verified in early October south of Ivanhoe.
- The light trap at White Cliffs captured one locust on the night of 6 October, and 120 and over 1000 on the two consecutive nights of 5 – 7 November with zero capture on all other nights, reflecting some movements of local populations. The large numbers of locusts trapped could have come from nearby areas, most likely from the east within 100 km range according to weather patterns and wind trajectory analysis. It also agrees well with the timing of a hatching report in early September in this region, which could not be investigated due to travel restrictions.
- September rainfall ranged from nearly nil in the Broken Hill region to over 50 mm to the eastern edge of this district, at the historic level of average to very much above average. October rainfall was much less, below 25 mm at average to below average.

#### Forecast

- Locust numbers are likely to be low in this district except the south-eastern part where localised medium density populations could develop. Sporadic breeding could occur with sufficient localised rainfall.
- There is a low – moderate likelihood of migration activity in late spring and early summer.

#### Risks

- There is a low risk of a widespread infestation developing during late spring and early summer.

All locust activity should be reported to your [Local Land Services](#) (1300 795 299) or the [Department of Primary Industries](#). 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 [apl@agriculture.gov.au](mailto:apl@agriculture.gov.au) or sent through the web page at [https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting\\_locusts](https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts).

<b>QUEENSLAND</b>
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**CENTRAL HIGHLANDS AND COALFIELDS****Isaac and Central Highlands Regional Councils; Banana Shire****Locusts and conditions**

- Surveys in mid-October detected frequent Isolated-density adults with occasional late-instar nymphs in this district.
- Biosecurity Queensland conducted ground surveillance in September and detected Isolated – Scattered-density adults in this district.
- No reports of locust activity were received from this district.
- Erratic September rainfall was under 25 mm with most parts under 10 mm, at the historic average level. October rainfall was from 10 mm in the north to over 50 mm in the south, generally at historic average level except for small areas of heavy falls.

**Forecast**

- With above average rainfall forecast, sporadic localised breeding could develop low to medium-density population.
- There is a low probability of any significant migration.

**Risks**

- There is a low risk of a widespread infestation developing in late spring and early summer.

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

- Only occasional Isolated-density adults were detected by survey in the small north-western corner of this region in mid-October.
- Biosecurity Queensland surveyed the area in September and detected Isolated – Scattered-density adults in this district.
- No locust reports were received from this district.
- September rainfall was less than 25 mm with very little in the north-eastern part, just at average to below average. October rainfall from 25 mm in the west to over 100 mm in the east, at the historic average to above average level.

**Forecast**

- Sporadic breeding may develop low to medium-density population.
- There is a low probability of migration in late spring and early summer.

**Risks**

- There is a low risk of a widespread infestation developing during spring.

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

- Limited surveys in mid-August detected Isolated-density adults and Present-density late-instar nymphs in the Longreach region. Surveys in late-September identified persistent Isolated-density adults in the Longreach and Winton regions without any nymphs detected. Surveys in late October found Isolated-density adults in the Longreach and Barcaldine regions.
- Biosecurity Queensland conducted ground surveillance in September and detected Isolated – Scattered-density adults in this district.
- No locust reports were received from this district.
- September rainfall was less than 10 mm in most parts of this district (below average), except for the Barcaldine region where more than 20 mm received (above average). October rainfall was less than

10 mm in most parts of this region except for the north-western corner where more than 25 mm rain received (Winton 36.8 mm, above average).

#### **Forecast**

- With more rain forecast, localised breeding may result in development of some medium-density populations.
- There is a low probability of redistribution and migration in late spring and early summer.

#### **Risks**

- There is a low risk of a widespread infestation, with the development of some localised low to medium-density infestations possible in early summer.

### **MARANOA AND WARREGO**

#### **Maranoa Regional Council; Murweh, Paroo, and Balonne Shires**

##### **Locusts and conditions**

- Surveys were conducted in late October in the Roma region and identified only Isolated-density adults.
- Biosecurity Queensland conducted ground surveillance in September and detected Isolated – Scattered-density adults in this district.
- No locust reports were received from this district.
- September rainfall was over 25 mm (above average) in most parts of this district with less than 10 mm in the south-western part. October rainfall was less than 10 mm in the south-western half and slightly over 25 mm in the north-eastern half, generally at the historic average level.

##### **Forecast**

- Locust numbers are likely to remain low with some localised breeding possible.
- There is a low probability of migration in late spring and early summer.

##### **Risks**

- There is a low risk of a widespread infestation in late spring and early summer.

### **NORTH WEST**

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

##### **Locusts and conditions**

- Surveys in late September identified occasional Isolated-density adults in the southern part of this district.
- No locust but some grasshopper reports were received from this district.
- September rainfall ranged from nearly nil in the southern part to less than 25 mm in the Mt Isa area, at average to above average level historically. October rainfall was over 10 mm in the southern part to over 50 mm in some localised small areas, ranging from average to above average level.

##### **Forecast**

- Locust numbers are likely to remain at low levels, but sporadic localised breeding may occur in some areas where more than 40 mm rainfall is received or along drainage systems.
- There is a low probability of migration activity.

##### **Risks**

- There is a low risk of a widespread infestation developing during late spring and early summer.

### **CHANNEL COUNTRY**

#### **Boulia, Diamantina, Barcoo, Quilpie, and Bulloo Shires**

##### **Locusts and conditions**

- Surveys in late September identified Isolated-density adults in the northern part of this district.

- No locust reports were received from this district.
- September rainfall ranged from nearly nil in most parts except for the southern corner where more than 25 mm received in a small area. This was generally at the historic average level. October rainfall was over 10 mm but under 25 mm in most parts of this region, at average – above average level.

#### **Forecast**

- Locust numbers are likely to remain at low level during late spring and early summer. Some sporadic localised breeding is possible.
- There is a low probability of migration activity in late spring but there could be some influx in summer.

#### **Risks**

- There is a low risk of a widespread infestation developing during late spring and early summer.

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 [apl@agriculture.gov.au](mailto:apl@agriculture.gov.au) or sent through the website at [https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting\\_locusts](https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts).



<b>SOUTH AUSTRALIA</b>
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**NORTH EAST PASTORAL and FLINDERS****Locusts and conditions**

- No surveys were conducted in this district.
- The Dulkaninna light-trap did not capture any locusts.
- No locust reports were received from this district.
- September rainfall was from nil to over 10 mm in the north-eastern corner, ranging from very much below average to just above average. October rainfall was over 10 mm in most parts with some areas higher than 25 mm, but still at average to above average levels historically.

**Forecast**

- Locust numbers are likely to remain low.
- There is a low probability of migration during late spring but there could be some immigration in early summer.

**Risks**

- There is a very low risk of a widespread infestation developing during late spring and early summer.

**RIVERLAND and MURRAYLANDS****Locusts and conditions**

- No surveys were conducted in this district.
- No locust reports were received from this district.
- September rainfall ranged from 10 mm to over 25 mm, at average or below average level. October rainfall was a similar amount, which was at the historical average level.

**Forecast**

- The locust population is likely to remain at very low densities.
- There is a low probability of migration during late spring and early summer.

**Risks**

There is a very low risk of a widespread infestation developing during late spring and early summer.

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](mailto:aplc@agriculture.gov.au) or sent through the website at [https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting\\_locusts](https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts).

<b>VICTORIA</b>
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**MALLEE****Mildura and Swan Hill Rural Cities; Yarriambiack and Buloke Shires****Locusts and conditions**

- No surveys were conducted in this district.
- No locust reports were received from this district, but one adult female with fully developed eggs was reported by Agriculture Victoria from Bendigo on 2 October.
- September rainfall was between 25 – 50 mm in most parts of this district, generally at the historic average level. October rainfall was a similar amount but was much lower in northern parts.

**Forecast**

- Locust numbers are likely to remain at low levels with some sporadic localised breeding possible.
- There is a low probability of migration during late spring and early summer.

**Risks**

- There is a very low risk of a widespread infestation developing during late spring and early summer.

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

- No surveys were conducted in this district.
- No locust reports were received from this district.
- September rainfall was from 25 mm to over 50 mm, generally at average level. October rainfall was at similar levels.

**Forecast**

- Locust numbers are likely to remain at low levels with possible localised breeding.
- There is a low probability of migration during late spring and early summer.

**Risks**

- There is a low risk of a widespread infestation developing during late spring and early summer.

Locust activity should be reported to the [Agriculture Victoria Customer Contact Centre](#) 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 [aplcv@agriculture.gov.au](mailto:aplcv@agriculture.gov.au) or sent through the website at [https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting\\_locusts](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 <sup>2</sup>		
Present	1	–	5
Numerous	6	–	30
Sub-band	31	–	80
Band	81	–	500
Dense Band	>500		

Adult Densities	Number per m <sup>2</sup>			Number per 250 m <sup>2</sup>		
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](mailto:aplc@agriculture.gov.au)

Website: [https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting\\_locusts](https://www.agriculture.gov.au/pests-diseases-weeds/locusts/landholders/reporting_locusts)