

# Locust Bulletin

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## GENERAL SITUATION IN NOVEMBER 2018 AND OUTLOOK TO FEBRUARY 2019

### Australian plague locust

### *Chortoicetes terminifera*

The locust population level remains very low over its range in eastern Australia. This trend has been maintained over the last two years. Widespread drought conditions during autumn, winter and September 2018 have limited locust breeding opportunities. Habitat conditions remained dry in most regions during November, but rainfall in New South Wales and Queensland produced a limited green vegetation response in some regions. Very few adult locusts were recorded during spring and no nymphs were detected.

Survey in the Central West, Northwest Plains, Far Southwest and Riverina regions of New South Wales recorded only occasional adult locusts and no nymphs. There was light–moderate rainfall (<20–40 mm) in parts of the Riverina, Far West, Far Southwest and Northwest regions in the first half of November. There were further light–moderate falls in the Northwest and Central West regions in late November.

Survey of the Central West, South Central and Central Highlands regions of Queensland identified very low density adult locusts in the Blackall–Longreach and Injune–Roma–Mitchell areas, with only occasional adults in other areas. There was light–moderate rainfall in the Southwest and South Central regions during the first week of November, and further light–moderate falls in those regions in the second half of the month.

Previous surveys in South Australia recorded no locusts and habitat conditions were very dry. There was localised light–moderate rainfall in parts of the Northwest and Northeast regions during November, but habitat conditions remain dry in most areas.

No surveys have been conducted in Victoria, but locust numbers are expected to be very low. There was light–moderate rainfall in the North Central region during the second half of November, but habitats remain dry in most areas.

The outlook for summer is for population densities to remain low in inland eastern Australia. The Bureau of Meteorology seasonal rainfall outlook for December to February 2019 indicates continued below average rainfall in Queensland and high temperatures are likely to persist over most of the species range. However, localised heavy rainfall events can provide breeding opportunities and subsequent nymph populations. Given the very low current population numbers in all surveyed regions, there is a low probability of successful breeding producing high density populations during December or January.

There is a low probability of a widespread infestation developing in any region during summer.

6 December 2018

**Spur-throated locust*****Austracris guttulosa***

The spring 2018 population level was lower than the spring records in recent years.

Surveys in November identified only very occasional adults in the Queensland Central West and more consistent low density adults in the Central Highlands region.

Although rainfall in the Central Highlands and South Central Queensland could have initiated some breeding during November, nymphs and eggs are susceptible to desiccation and high nymph mortality can occur if habitats become dry in December or January. The low spring population numbers in surveyed regions are unlikely to produce widespread nymphs during summer, even if there is average wet season rainfall. Low numbers of nymphs are likely to develop in parts of these regions during December.

There is a low risk of a widespread infestation developing during summer.

**Migratory locust*****Locusta migratoria***

Surveys in mid-November did not detect this species, although occasional adults were recorded in the Southern Central Highlands in October. Rainfall in the southern Central Highlands and South Central Queensland during November could allow low density breeding and the maintenance of background population numbers.

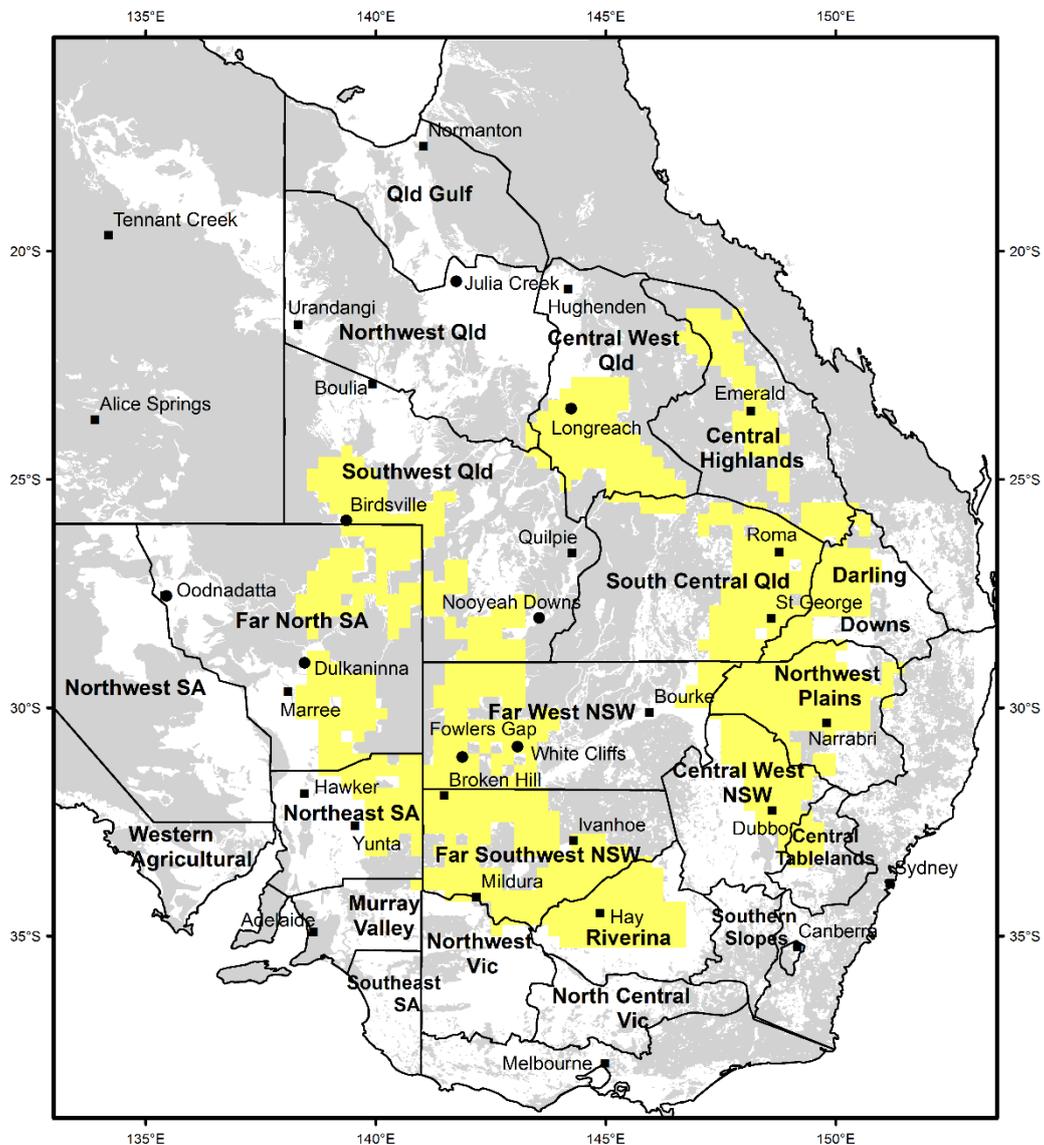
There is a low risk of a widespread infestation developing during summer.

**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 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 at [apl@agriculture.gov.au](mailto:apl@agriculture.gov.au) or made through the website at <http://www.agriculture.gov.au/aplc>**

**Locust distribution map – *Chortoicetes terminifera***

**Australian Plague Locust Distribution**

1 November to 30 November 2018



Densities estimated for areas of locust habitat, based on surveys and reports from current and previous month

Reference: unprojected geographical

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	■ Scat-Numerous 1000-5000	■ Num-Concentration 5000-30,000
● APLC light trap		■ Swarms present >30,000	

**Australian plague locust****(*Chortoicetes terminifera*)****SITUATION IN NOVEMBER 2018 AND FORECAST TO FEBRUARY 2019****NEW SOUTH WALES****CENTRAL WEST and NORTHWEST PLAINS****Central West, Northwest and Central Tablelands Local Land Services****Locusts and conditions**

- The locust population is currently at very low densities and there have been no reports.
- November survey identified only isolated density adults in the Narromine–Coonamble–Carinda area and no nymphs were detected.
- The Northwest Plains received light rainfall (<20 mm) in early November and widespread moderate rainfall (20-40 mm) after mid-November. Areas of the Central West received light-moderate rainfall (<20-40 mm) in those periods, with some moderate–heavy falls (20->40mm) in the Central Tablelands in late November. Pasture vegetation is green in eastern areas of the Northwest Plains and is becoming dry in most other areas.

**Forecast**

- Despite improvement in habitat conditions in some areas during spring, no large population increase is likely during December or January. Rainfall in the Northwest region will produce favourable habitat conditions. Sporadic breeding could produce localised low density nymphs during December, but these are only likely to maintain low adult population levels in January.
- There is a very low probability of significant immigration from other regions during summer.

**Risks**

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

**RIVERINA****Riverina and Murray Local Land Services****Locusts and conditions**

- The locust population was at very low density during spring. There were no reports.
- Survey of the western Riverina in mid-November identified only occasional adults and no nymphs were detected.
- There is unlikely to have been any significant autumn egg laying and spring hatching would have finished during October. Dry conditions are likely to have increased nymph mortality.
- There was widespread light-moderate rainfall (<20-40 mm) across the southern Riverina during the first week of November. There was a limited vegetation response in that areas in mid-November, but pasture vegetation remains dry in most districts.

**Forecast**

- Locust numbers are likely to remain at low levels during December and January, given the current population level and limited breeding opportunities. Any breeding in November would only produce low density nymphs that will contribute to overall low adult numbers during summer.
- There is a very low probability of significant immigration from other regions during summer.

**Risks**

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

## **FAR WEST and FAR SOUTHWEST**

### **Western Local Land Services**

#### **Locusts and conditions**

- Locusts were at very low densities during spring. There were no reports.
- Survey in mid-November identified no locusts in the Broken Hill–Wentworth area and only occasional adults in the Wilcannia–Ivanhoe–Balranald area.
- The Fowlers Gap and White Cliffs light traps recorded no locusts during spring.
- There was localised light–moderate rainfall in the Balranald–Wentworth area in early November and light rainfall in the Bourke and Wanaaring districts in mid-November. Pasture vegetation remains very dry in most areas.

#### **Forecast**

- Given the very low current population level and dry habitat conditions, locust numbers are likely to remain low during December and January.
- Any sporadic breeding following rainfall in November will produce only low density nymphs that would contribute to maintaining low overall adult densities in summer. Widespread moderate-heavy rainfall would be necessary during December for any significant population increase.
- There is a very low probability of significant immigration from other regions during summer.

#### **Risks**

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

**All locust activity should be reported to your Local Land Services or the Department of Primary Industries, NSW. A toll-free call to the APLC 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 at [aplc@agriculture.gov.au](mailto:aplc@agriculture.gov.au) or sent through the web page at <http://www.agriculture.gov.au/aplc>**

<b>QUEENSLAND</b>
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**SOUTHWEST****Barcoo, Bulloo, Quilpie and Diamantina Shire****Locusts and conditions**

- The locust population level was very low in surveyed areas during spring. There have been no reports.
- Limited survey in Bulloo and Diamantina shires in October detected no locusts and habitat conditions were very dry.
- No locusts were recorded at the Birdsville or Nooieah Downs light traps during spring.
- There was patchy light rainfall (<20 mm) in Bulloo and Diamantina shires during the first week of November and widespread light–moderate rainfall in parts of Bulloo, Quilpie and Diamantina shires during the second and third weeks of November. Vegetation remains dry in most areas after several previous months with no rainfall.

**Forecast**

- Locust numbers are expected to remain very low during December and January, given the previous low population level and dry habitats. Rainfall during November could have initiated some sporadic breeding and low density nymphs might develop in localised areas in the southern half of the region. Further rainfall would be necessary during December to improve nymph survival rate in most areas.
- There is a low probability of immigration from other regions during summer.

**Risks**

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

**CENTRAL WEST & NORTHWEST****Longreach, Barcaldine and Blackall-Tambo Regional Council. Boulia, Cloncurry, Flinders, McKinlay, Mt Isa, Richmond and Winton Shire****Locusts and conditions**

- The locust population level was low in surveyed areas during spring.
- Isolated density adults were identified in the Longreach and Blackall-Tambo Regional Council (RC) areas during November. No nymphs were detected. The Northwest region was not surveyed.
- No locusts were recorded at the Longreach light trap during spring.
- There was patchy light rainfall in the Northwest region during the second week of November. The southern Central West received light–moderate rainfall (<20–40 mm) during the third and fourth weeks of November. Vegetation remains very dry in most areas, after prolonged drought conditions.

**Forecast**

- Locust numbers are likely to remain low during December and January. Given the very low current population level and poor habitat conditions, any sporadic breeding will only contribute to maintaining the background population level.
- There is a low probability of immigration from other regions during summer.

**Risks**

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

**CENTRAL HIGHLANDS****Central Highlands and Isaac Regional Council****Locusts and conditions**

- The locust population level remained very low in surveyed areas during spring. There were no reports.
- Surveys during November identified occasional isolated density adults in Isaac and Central Highlands RC areas. No nymphs were detected.
- There was patchy storm rainfall (20->40mm) at the end of October and widespread light–moderate rainfall in mid-November. However, pasture vegetation dried off rapidly in most areas in late November.

**Forecast**

- The locust population level is likely to remain generally low during summer. Summer storm rainfall should initiate some sporadic low density breeding and nymphs could develop in localised areas of the Central Highlands RC area.
- There is a low probability of immigration from other regions during summer.

**Risks**

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

**SOUTH CENTRAL & DARLING DOWNS****Balonne, Murweh and Paroo Shire. Maranoa, Western Downs and Goondiwindi Regional Council****Locusts and conditions**

- Locust population levels are generally low in these regions. There have been no reports.
- Surveys in late November identified Isolated density adults in Murweh Shire and in Maranoa, Western Downs and Goondiwindi RC areas. No nymphs were detected.
- There was light rainfall in Paroo and Balonne shires during the first week of November and widespread light-moderate rainfall in the second half of the month, with some locally heavy storms (>40 mm). Pasture vegetation was green in parts of Maranoa, Western Downs and Goondiwindi RC areas in late November.

**Forecast**

- The locust population is likely to remain generally low during December and January. Some sporadic breeding may be initiated in areas that received rainfall in November. Further rainfall in December could provide favourable conditions for nymph development and an increase in adult population to Numerous density is possible in some areas in February.
- There is a low probability of immigration from other regions during summer.

**Risks**

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

**Locust activity should be reported to Biosecurity Queensland (Queensland Department of Agriculture and Fisheries) on 132523. A toll free call to the APLC 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 at [aplc@agriculture.gov.au](mailto:aplc@agriculture.gov.au) or sent through the website at <http://www.agriculture.gov.au/aplc>.**

<b>SOUTH AUSTRALIA</b>
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**FAR NORTH, NORTHEAST, NORTHWEST & WESTERN AGRICULTURAL REGION****Locusts and conditions**

- Locust population densities are expected to have remained very low during November. There were no reports.
- Surveys in the Far North region in October did not record any locusts and habitat conditions were very dry.
- The Dulkaninna and Oodnadatta light traps did not record any locusts during spring.
- There was light–moderate rainfall (<20-40 mm) in the Northwest region and patchy falls in the Northeast region during the first week of November. There was further light–moderate rainfall in parts of the Northwest region in mid-November and light rainfall in the Western Agricultural region in late November. Ground vegetation is dry in most areas.

**Forecast**

- The locust population level is likely to remain very low in these regions during summer. The current very low numbers and dry habitats present limited opportunities for successful breeding. Parts of the Northwest region that received several rain periods during November could support sporadic low density breeding, but nymph survival is likely to be limited unless there is further rainfall during December.
- There is a low probability of migrations into these regions during summer.

**Risks**

- There is a low risk of a widespread infestation developing in summer.

**MURRAY VALLEY, MT LOFTY RANGES & SOUTHEAST REGION****Locusts and conditions**

- Locust densities are expected to be very low in these regions. No surveys were conducted and there have been no reports.
- There was light rainfall in the Southeast, Murray Valley and Mt Lofty regions during the first week of November and further light falls in the second half of November.

**Forecast**

- The locust population level is likely to remain very low during summer.
- There is low probability of any immigration from other regions during summer.

**Risks**

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

**Locust activity should be reported to Biosecurity SA (Primary Industries and Regions South Australia) on the Plant Health Hotline on 1300 666 010. A toll-free call to the APLC 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 at [apl@agriculture.gov.au](mailto:apl@agriculture.gov.au) or sent through the website at <http://www.agriculture.gov.au/aplc>.**

<b>VICTORIA</b>
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**NORTHWEST & NORTH CENTRAL VICTORIA****Locusts and conditions**

- The locust population level is expected to have been very low during spring. There have been no reports.
- Any spring hatchings from diapause eggs would have been completed in November.
- There was light–moderate rainfall (<20-40 mm) in North Central Victoria during the second half of November. Pasture vegetation remains dry in the Northwest and most areas of the North Central region.

**Forecast**

- Locust numbers are likely to remain very low during summer.
- There is a low probability of any immigration from other regions during summer.

**Risks**

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

**Locust activity should be reported to Department of Economic Development, Jobs, Transport and Resources on 1300 135559. A toll-free call to the APLC 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 at [aplc@agriculture.gov.au](mailto:aplc@agriculture.gov.au) or sent through the website at <http://www.agriculture.gov.au/aplc>.**

## 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 in anticipation of unfavourable environmental conditions
egg bed	An area of soil containing many egg pods (up to 1,000 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		>	80

Adult Densities	Number per m <sup>2</sup>		Number per hectare
Isolated	-	0.02	< 200
Scattered	0.03	- 0.1	>200 – 1000
Numerous	0.2	- 0.5	>1000 – 5000
Concentration	0.6	- 3.0	>5000 – 30,000
Low Density Swarm	4.0	- 10	>30,000 – 100,000
Medium Density Swarm	11	- 50	>100,000 – 500,000
High Density Swarm	>	50	>500,000

General density classes	Nymph densities	Adult densities
very low, occasional	Nil-Present	Nil-Isolated
low	Present	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, Primary Industries & Regions South Australia (PIRSA)
Victoria	Biosecurity Agriculture, Department of Economic Development, Jobs, Transport 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:	<a href="mailto:apl@agriculture.gov.au">apl@agriculture.gov.au</a>
Website:	<a href="http://www.agriculture.gov.au/aplc">http://www.agriculture.gov.au/aplc</a>