

# Locust Bulletin

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## GENERAL SITUATION IN JANUARY AND OUTLOOK TO APRIL 2021

### Australian plague locust

### *Chortoicetes terminifera*

The locust population remained at a low to medium level over most of inland eastern Australia, with some higher densities detected in parts of New South Wales and Queensland. Adult numbers generally decreased in most areas due to natural mortality at the end of the normal lifespan and/or redistributions/dispersals by favourable weather systems. Short-distance nocturnal migrations were detected by insect monitoring radar and light traps associated with disturbed weathers, but no suitable weather systems occurred to facilitate any long-distance migrations. Consecutive short-distance migrations might have spread locust populations more widely and relocated populations further into inland areas. Nymph numbers observed in surveys were generally at low to medium density, with higher numbers detected in the Lake Cargelligo district (up to Sub-Band density) and Moree district (up to Band density) of NSW. More bands were reported from the North West Slopes & Plains\* and adjacent Darling Downs and Granite Belt. No surveys were conducted in either Victoria or South Australia, and no reports were received, but locust populations are expected to have remained at low levels with some small areas of localised higher densities in both States.

January rainfall was above average across much of southern inland eastern Australia, but around or below average in the north. Most rain was received either at the start or end of January, except in the Goondiwindi district where additional moderate to heavy rainfall occurred in mid-January. Temperatures were generally warmer than average, particularly daily minimum temperatures. The La Niña event is likely to have peaked, but its influence continues. Average rainfall is expected in February and higher than average in March and April in much of inland eastern Australia with warmer overnight temperatures.

In New South Wales, adult densities generally declined. A Low-Density Swarm was identified in the Darnick district where high numbers of summer generation nymphs were previously observed. Numerous densities were detected in the Ivanhoe-Lake Cargelligo-Booligal areas and the Louth district. All other surveyed areas had Isolated-Scattered Density adults. Locust movements were evident from the light-trap captures in White Cliffs (10, 12, and 26 January) and the radar detections in Hay (11, 24–27 January). Nymph densities identified were up to Band in the Moree district, Sub-band in the Lake Cargelligo district, and Numerous in the Darnick district. Only occasional Present-density nymphs were identified in other areas. Reported bands were confirmed and more were identified in the North West Slopes & Plains by the aerial surveys conducted by the Department of Primary Industries and Local Land Services.

In Queensland, apart from Low-Numerous density adults identified around Retreat, consistent Isolated to Scattered-density adults were detected in surveyed areas. Disturbed weather events may have redistributed locust adults further inland into the Channel Country. Present to Numerous-density nymphs were consistent in the Central West. Most locust reports received from the Darling Downs and Granite Belt were followed up by local and State governments. Control of some areas of nymphs was undertaken by some landowners.

The outlook for February is for increasing locust activity, with a high likelihood of further successful widespread breeding in Queensland and New South Wales but only limited to localised, sporadic breeding in other States. It is expected that more swarms will develop and result in a larger autumn population.

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

\*Note: APLC now uses the Bureau of Meteorology forecast district boundary names for all reporting and forecasting.

8 February 2021

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

Surveys detected consistent occurrences of Isolated-density adults in Queensland and occasional appearances in the Upper Western of New South Wales. Only a Scattered density of adults was identified between Longreach and Blackall. Present-density nymphs were identified in late January in inland Queensland.

The near or below average rainfall in much of the Queensland interior in January may have limited seasonal breeding, but low-density nymphs are still likely to appear in much of Queensland with some localised medium to high-density populations expected to occur in the Central Highlands and Coalfields and Darling Downs and Granite Belt districts of Queensland. Only limited breeding is likely in New South Wales and South Australia based on their very low background populations.

There is only a low risk of a widespread infestation, but the possibility exists for a region-wide infestation in subtropical Queensland developing during the remainder of summer and early autumn.

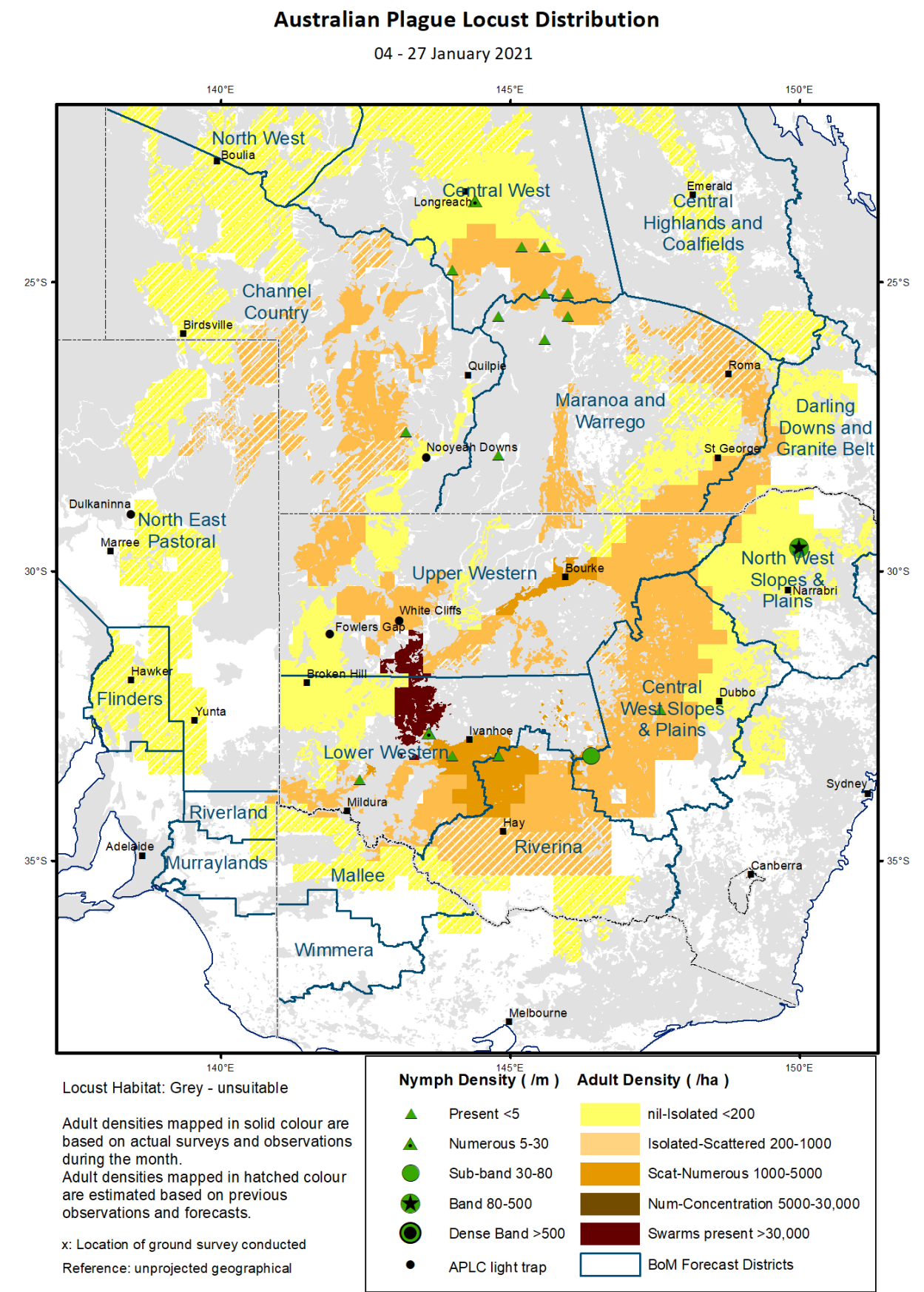
**Migratory locust*****Locusta migratoria***

Surveys in January did not detect any migratory locust, but the locust habitat conditions in the Central Highlands and Coalfields and Darling Downs and Granite Belt districts of Queensland remained reasonably favourable. Localised breeding is likely to produce some low to medium density populations. 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 the remainder of summer and early autumn.

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

Locust distribution map–*Chortoicetes terminifera*



**Australian plague locust****(*Chortoicetes terminifera*)****SITUATION IN JANUARY AND FORECAST TO APRIL 2021****NEW SOUTH WALES****NORTH WEST SLOPES & PLAINS****Northwest Local Land Services****Locusts and conditions**

- Surveys were conducted in early January with Isolated to Scattered-density adults identified, and a third instar band in the Moree district.
- LLS officers followed up about 150 locust reports mainly nymphal bands in the north-eastern part of the region in January.
- The Department of Primary Industries conducted several aerial surveillance activities from mid-January in the northern half of the region and identified more locust bands from the air in addition to those reported.
- Landholders conducted some control of locust bands.
- This region received about average rainfall (25-100mm) in January mainly from rainfall events in early January. Habitat conditions remained favourable for locust breeding.

**Forecast**

- The likelihood of breeding is high associated with about average rainfall forecast (>50mm) for February and above average in March and April. Swarms are likely to form from February onwards.
- There is a low probability of any significant immigration during the remainder of summer but there could be some short-distance emigration to the west or southwest adjacent areas under suitable weather conditions.

**Risks**

- There is a moderate to high risk of a widespread high density regional infestation developing during the remainder of summer and autumn.

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

- Surveys identified Isolated to Scattered-density adults, and Present to Numerous-density nymphs with higher densities in the Lake Cargelligo district.
- LLS officers followed up several reports of nymph sightings in Coonabarabran, Nyngan, and Trangie districts.
- This region received monthly rainfall from about average in the northeast to very much above average in the southwest, with total amounts between 25mm and 150mm. The highest daily recorded amounts in the Lake Cargelligo area (70mm) and Condobolin area (100mm) in late January.

**Forecast**

- The likelihood of breeding is moderate to high associated with about average rainfall for February (>25mm) and autumn. Localised swarms are likely to develop from February onwards.
- There is a low to moderate probability of significant immigration into this region during the remainder of summer but there could be some short-distance emigration to the west or southwest adjacent areas under suitable weather conditions.

**Risks**

- There is a low to moderate risk of a widespread regional infestations developing during the remainder of summer and autumn.

## **RIVERINA**

### **Riverina, Murray, and part of Western Local Land Services**

#### **Locusts and conditions**

- Surveys in the north-western part of this region (within the Western LLS) identified consistent Isolated to Low-Numerous density adults with higher numbers in the Hillston districts. Present-density nymphs were occasionally detected.
- Three reports of locust activity were confirmed in early January in the Ardlethan-Jerilderie areas by LLS officers.
- The UNSW insect monitoring radar in Hay detected several nocturnal locust overflights in mid- and late January (11, 24-27 January), indicating short-distance migrations of mature locust adults in surrounding areas.
- The January rainfall was from 25mm in the south to over 100mm in the north, with above average over much of the region. Pasture vegetation remained reasonably favourable for locusts.

#### **Forecast**

- Locust numbers are likely to experience a low to moderate increase with the possibility of localised swarms and bands developing in the remainder of summer and early autumn. Moderate rainfall (>25mm) is forecast for February with above average totals for next three months.
- There is a low to moderate probability of migration from and to adjacent regions.

#### **Risks**

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

## **UPPER and LOWER WESTERN**

### **Western Local Land Services**

#### **Locusts and conditions**

- Surveys in January identified consistent Isolated to Low-Density Swarm adults with higher numbers in the southeast of this region, where Present to Sub-Band nymphs were also detected. More adults were observed in the western part of this region lately.
- The light traps at White Cliffs captured about 700 locusts on the night of 12 January, and 2 on the nights of 10 and 25 January. Frequent disturbed weather events might have encouraged some short-distance redistributions within this region towards the northwest in general.
- January rainfall was from 10mm in the west to over 100mm in the east of this region, generally about average in the north to very much above average in the southeast. Pasture vegetation remained in reasonably good conditions over much of the region.

#### **Forecast**

- Locust numbers are likely to show a low to moderate increase with some localised swarms aggregated by favourable weather, and high-density nymphs developing from sporadic breeding with localised rainfall. Light rainfall (<20mm) is forecast for February, below average and drier towards the northwest, but above average rainfall is forecast for March and April.
- There is a moderate likelihood of migration activity, a high likelihood of redistribution within this region, plus some migration from and to adjacent regions.

#### **Risks**

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

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

- No surveys were conducted in January.
- No reports of locust sighting were received from this region.
- January rainfall was irregular, from just above 25mm to over 200 mm, from below average to very much above average.
- Pasture vegetation was in reasonably good condition.

**Forecast**

- The locust population is likely to increase at low to moderate level in the remainder of summer and early autumn. February rainfall is forecast to be about average (>50mm) for this region, but above average for March and April.
- Sporadic high-density breeding could occur in some areas.
- There is a low probability of any significant immigration but a moderate probability of emigration to the west and southwest.

**Risks**

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

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

- Surveys detected only Isolated-density adults but no nymphs in early January.
- Numerous reports received of locust bands in the Miles-Goondiwindi areas, where there was the sudden appearance of locust adults in December, were confirmed by Biosecurity Queensland staff.
- January rainfall was from 50mm to over 100mm, above to very much above average over a large proportion of this region.
- Pasture vegetation remained favourable for locusts.

**Forecast**

- The locust population is likely to increase moderately in the remainder of summer and early autumn, with February rainfall forecast about average (>50mm) but above average for March and April.
- Swarms are likely to form from February onwards, and subsequent bands may develop from sporadic high-density breeding.
- There is a low probability of any significant immigration but a moderate probability of emigration to west and southwest.

**Risks**

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

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

- Surveys conducted in the southern part identified consistent Isolated to Scattered-density adults and Present-Numerous density nymphs.
- January rainfall ranged from 10mm to over 100 mm, with much about average in the south.
- Pasture vegetation remained favourable for locusts.

**Forecast**

- Locust numbers are likely to increase moderately with possible localised higher densities from breeding and immigration with about average February rainfall (>50mm). Swarms are likely to form from mid-February onwards.
- There is a moderate probability of redistribution and migration in the remainder of summer and early autumn.

**Risks**

- There is a low to moderate risk of a widespread infestation, with the development of some localised higher-density infestations possible in the remainder of summer and early autumn.

**MARANOA AND WARREGO****Maranoa Regional Council; Murweh, Paroo, and Balonne Shires****Locusts and conditions**

- Surveys identified widespread Isolated to Scattered-density adults, with consistent Present-density nymphs in the Murweh Shire in late January.
- January rainfall ranged from 25mm to over 100 mm, with above average in the east.
- Pasture vegetation remained in good condition.

**Forecast**

- Locust numbers are likely to moderately increase with possible localised higher densities from breeding and immigration, and about average February rainfall (>25mm) and above average rainfall for March and April.
- There is a moderate probability of redistribution and migration in the remainder of summer and early autumn.

**Risks**

- There is a low to moderate risk of a widespread infestation, with the development of some localised higher-density infestations possible in the remainder of summer and early autumn.

**NORTH WEST****Mt Isa, Cloncurry, McKinlay, Boulia, and Winton Shires****Locusts and conditions**

- No surveys were conducted in January.
- No reports were received from this region.
- January rainfall range from 10mm to over 50 mm, with moderate rainfall (>50mm) in the north and light rainfall (>10mm) in the south, below to about average.
- Pasture vegetation remained unfavourable for locusts over most of the region.

**Forecast**

- Locust numbers are likely to slightly increase during the remainder of summer, possibly from local and immigrated populations. With forecast for less than average February rainfall (25mm) but above average for March and April, the autumn generation is likely to increase moderately from both localised sporadic breeding and immigration.
- There is a low-moderate probability of some immigration from adjacent areas.

**Risks**

- There is a low risk of a substantial widespread infestation developing during the remainder of summer and early autumn, but with a moderate probability of some localised infestations.

## **CHANNEL COUNTRY**

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

#### **Locusts and conditions**

- Surveys in the Barcoo, Quilpie and Bulloo Shires identified Isolated to Low-Numerous density adults with occasional nymphs detected.
- January rainfall was less than 25 mm over much of the western areas, about average.
- Pasture vegetation remained generally unfavourable for locusts.

#### **Forecast**

- Locust numbers are likely to moderately increase during the remainder of summer, mostly from immigrated populations. With forecast for below average February rainfall (<25mm) but above average rainfall in March and April, localised breeding is possible to produce larger autumn population.
- There is a moderate probability of some immigration from adjacent areas.

#### **Risks**

- There is a low risk of a substantial widespread infestation developing during the remainder of summer and early autumn, with a moderate probability of some localised higher-density infestations.

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

- No surveys were conducted in this region in January.
- The Dulkaninna light-trap did not record any locusts in December.
- There was no locust report from this region.
- January rainfall was less than 25 mm over much of the region, with 30-50 mm in the Arkaroola-Yunta areas, very much above average.
- Pasture vegetation remained dry over much of the region with some localised green habitats.

**Forecast**

- Adult numbers are likely to increase moderately from immigrated populations during the remainder of summer. With below average February rainfall (<25mm), only some sporadic low to medium-density breeding is likely, but localised higher density nymphs are possible with above average rainfall for March and April.
- There is a moderate probability of some immigration from the east during the remainder of summer.

**Risks**

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

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

- No surveys were conducted in January and no locust reports were received from this region.
- January rainfall was less than 25mm, about average.
- Vegetation remained dry across much of this region.

**Forecast**

- The locust population is likely to remain at very low densities but some localised low to medium density populations are possible from sporadic, localised breeding or immigration with less than average February rainfall (<25mm).
- There is a low probability of immigration during the remainder of summer.

**Risks**

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

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

<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 January, and no locust reports were received from this region.
- January rainfall was from a few millimetres to over 50mm in the south, above average over a large area from either the start or end of January.
- Habitats remained dry but some improvement resulted from localised rainfall events.

**Forecast**

- Locust numbers are likely to remain at low levels or increase slightly in the remainder of summer and early autumn with forecast for average February rainfall (<25mm) and above average rainfall for March and April.
- There is a low-medium probability of migration from and to adjacent areas in the remainder of summer.

**Risks**

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

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

- No surveys were conducted in January, and no locust reports were received from this region.
- January rainfall was moderate to heavy (25-50mm) over much of the region.
- Habitats remained dry.

**Forecast**

- Locust numbers are likely to remain at low levels or increase slightly in the remainder of summer and early autumn from some localised sporadic breeding, with average February rainfall forecast (<25mm).
- There is a low probability of migration.

**Risks**

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

**Locust activity should be reported to the Agriculture Victoria Customer Service Centre on 136 186. Alternatively, you can make a report via our online form: <https://forms.bio.vic.gov.au/public-reporting>. Please include photos where possible.**

**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 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	80	-	500
Dense Band		>	500

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

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, 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: [apl@agriculture.gov.au](mailto:apl@agriculture.gov.au)  
 Website: <http://www.agriculture.gov.au/aplc>