

Locust Bulletin

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GENERAL SITUATION IN OCTOBER AND OUTLOOK TO JANUARY 2020

Australian plague locust

Chortoicetes terminifera

The locust population level remained very low over its range in eastern Australia in October 2019. Only sporadic low-density adults were sighted by APLC surveys but no nymphs were observed, even in localised green habitats. Vegetation in most areas where almost no rainfall occurred in the entire month continued to dry out and habitat became increasingly unfavourable. The latest satellite images indicated there was some greener vegetation in the Central Highlands and Darling Downs of Queensland, while the remaining locust habitat in eastern Australia became drier. Despite some heavy rainfall which resulted from two separate weather systems across an area from central Queensland to Victoria at the end of October and the beginning of November, the very low background population will limit breeding even in any suitable habitats that may result from this latest rainfall. Therefore, the locust population will remain low in most inland regions.

There was no significant rainfall in inland areas during the first four weeks of October. Some heavy rains fell in the Southwest, Central West, and South Central Queensland (>100 mm in Blackall district) under a subtropical trough during 29 October to 1 November. A wave of temperate cold fronts associated with inland troughs brought widespread rains over eastern South Australia, Victoria, New South Wales and Queensland in the beginning of November. More than 100 mm fell in the Bourke district within the week, while parts of the Murray Valley and Southeast regions of South Australia and Northwest and North Central Victoria had up to 25 mm. This latest rainfall will produce some green vegetation in these regions.

Surveys in the Central West, Central Highlands and South Central Queensland recorded low adult densities at the end of October. Some Scattered densities were present in the Central Highlands. The population identified in the Channel Country of Northwest and Southwest Queensland in previous surveys is expected to persist but at reduced numbers due to continued drying conditions.

Surveys recorded very few adult locusts in late October in the Riverina and Central West regions of New South Wales, where only a few millimetres of rainfall fell in mid-October. Surveys in the Far West and Far Southwest regions recorded no locusts.

Surveys in the Northeast of South Australia in the beginning of October also recorded no locusts. No further surveys were conducted in the remainder of South Australia in October.

Limited surveys in the Northwest of Victoria also did not detect any locusts. Locust numbers are expected to remain very low in this region.

The spring-summer outlook is for very low population densities to persist in most regions of inland eastern Australia. Although the latest rainfall might improve vegetation conditions in some regions of Queensland and New South Wales, locust habitat in the rest of inland eastern Australia will remain unfavourable with only limited breeding expected. The Bureau of Meteorology seasonal outlook indicates that below average rainfall and above average temperatures are likely to continue over coming months, and eastern Australia should be drier than average. Therefore, there is a low likelihood of high-density populations developing in any inland region in next few months.

There is a very low probability of widespread regional infestations developing during spring and summer.

5 November 2019

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

The population level remained very low. Only low-density adults were observed by surveys in Queensland and no nymphs were detected. No adults were recorded in New South Wales, Victoria or South Australia. This is one of the smallest annual populations recorded in APLC surveys and is likely to result in a low summer breeding population.

Surveys of the Central West, Central Highlands and parts of South Central Queensland at the end of October recorded only isolated density adults in areas associated with residual green vegetation.

The heavy rainfall in parts of the Southwest, Central West, Central Highlands and South Central regions of Queensland at the end of October should produce some areas of localised suitable habitat for possible late spring breeding. However, the very low background population will not be able to develop into a subsequent large population.

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

Migratory locust***Locusta migratoria***

This locust was not recorded during any surveys in October. Migratory locust habitats have become mostly dry in areas where this species was previously detected.

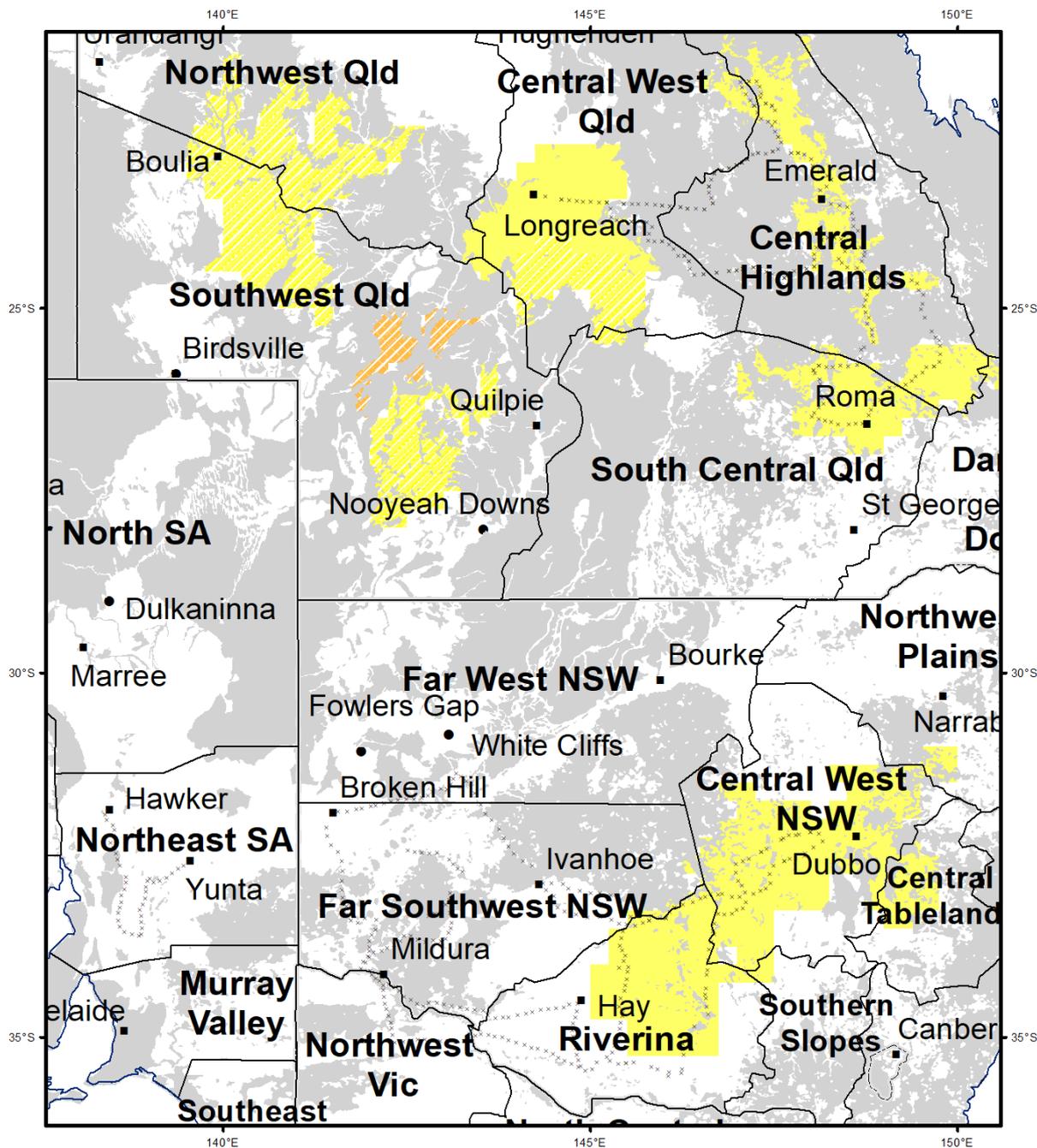
There is a very low risk of a widespread infestation developing during summer.

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 aplc@agriculture.gov.au or made through the website at <http://www.agriculture.gov.au/aplc>

Locust distribution map – *Chortoicetes terminifera*

Australian Plague Locust Distribution

01 October to 02 November 2019



Locust Habitat: Grey - unsuitable

Densities estimated for areas of locust habitat, based on current surveys and previous surveys (lined shade)

x: Location of ground survey conducted

Reference: unprojected geographical

Nymph Density (/m)		Adult Density (/ha)	
○	Present <5	■	nil-Isolated <200
⊕	Numerous 5-30	■	Isolated-Scattered 200-1000
⊕	Sub-band 30-80	■	Scat-Numerous 1000-5000
⊕	Band >80	■	Num-Concentration 5000-30,000
●	APLC light trap	■	Swarms present >30,000

Australian plague locust**(*Chortoicetes terminifera*)****SITUATION IN OCTOBER AND FORECAST TO JANUARY 2020****NEW SOUTH WALES****CENTRAL WEST and NORTHWEST PLAINS****Central West, Northwest and Central Tablelands Local Land Services****Locusts and conditions**

- Locust population density remained very low in this region. Surveys in late October recorded only isolated density adults in the Narromine - Condobolin district of Central West Local Land Services (LLS) region.
- There were no further locust reports from the districts in the northern Central Tablelands and Hunter LLS regions where locusts developed in the previous season.
- Only a few millimetres of rainfall fell in these regions in October, while the trough from the north produced less than 25 mm of rainfall to most districts in the beginning of November.

Forecast

- The locust population is expected to remain at a low level in these regions during the remainder of spring and into summer.
- Spring hatchings might have occurred in some localised areas, but only localised low-density nymphs are likely to develop in Central West and Northwest LLS regions.
- Areas of the northern Central Tablelands and Hunter LLS regions where locusts were reported in the previous season are likely to have a residual population but further development will be limited under the current dry conditions.
- There is a very low probability of any locust immigration during spring and summer.

Risks

- There is a low risk of a widespread regional infestation developing during the remainder of spring or summer.

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

- The locust population continued to decline, and surveys in late October recorded only occasional isolated adult locusts in the eastern parts of these regions, with habitat conditions mostly very dry in most areas.
- There were only a few millimetres of rainfall in mid-October in these regions, but more than 25 mm was received across most parts in the beginning of November.

Forecast

- Locust numbers are likely to remain at a low level during the remainder of spring and summer, given the very low background population and limited breeding opportunities.
- Any remaining spring hatchings would have some chance to survive where the latest rainfall fell.
- There is a very low probability of immigration from other regions during spring.

Risks

- There is a low risk of a widespread infestation developing during the remainder of spring or summer.

FAR WEST and FAR SOUTHWEST

Western Local Land Services

Locusts and conditions

- Late October survey in the Far Southwest region identified no locusts.
- The Fowlers Gap and White Cliffs light traps recorded no locusts during October.
- Pasture vegetation was very dry throughout October.
- No rain fell in the first four weeks of October, but some heavy rains fell in the Bourke district in the beginning of November. The Bourke district received more than 100 mm rainfall while the northeast half of this region received more than 25 mm.

Forecast

- Locust numbers are likely to remain low during the remainder of spring and summer, given the very low current population level and the ongoing dry habitat conditions in most areas.
- There would only be limited opportunity for breeding in localised areas with good rainfall.
- There is a very low probability of significant immigration from other regions during the remainder of spring and summer.

Risks

- There is a low risk of a widespread infestation developing during the remainder of spring or 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 or sent through the web page at <http://www.agriculture.gov.au/aplc>

QUEENSLAND

SOUTHWEST AND NORTHWEST**Bulloo, Quilpie, Barcoo, Diamantina and Boulia, Winton, Cloncurry, McKinlay, Richmond, and Mt Isa Shires****Locusts and conditions**

- No survey was undertaken in this region in October.
- Only a few channels remained green based according to the latest satellite images.
- There was no rainfall during the first four weeks of October. The Quilpie-Windorah-Stonehenge region received 25-100 mm at the end of October and early November, while the remainder of this region mostly received less than 10 mm.

Forecast

- Locust numbers are expected to have declined during the dry October, and remain low in localised green habitats along channels and creeks during the remainder of spring and summer. Limited breeding may occur in those locations where sufficient rainfall was received.
- There is a low probability of immigration from other regions during the remainder of spring or summer.

Risks

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

CENTRAL WEST**Longreach and Barcaldine Shires and Blackall-Tambo Regional Council****Locusts and conditions**

- Surveys at the end of October identified Isolated density adults in Longreach and Barcaldine Shires and Blackall-Tambo Regional Council (RC) areas. No survey was undertaken in the Northwest.
- No locusts were recorded at the Longreach light trap during October.
- Vegetation became dry in most areas.
- No rainfall occurred during the first four weeks of October. There was localised heavy rainfall (>100 mm in Blackall district) during 28 October to 4 November.

Forecast

- Locust numbers are likely to remain low during the remainder of spring and summer, given the low background population level despite any favourable habitats that may result from the latest rainfall event.
- Limited breeding may occur in areas with sufficient rainfall.
- There is a low probability of significant immigration from other regions during the remainder of spring or summer.

Risks

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

CENTRAL HIGHLANDS and SOUTH CENTRAL**Isaac, Central Highlands and Maranoa Regional Councils****Locusts and conditions**

- Surveys at the end of October and beginning of November identified Isolated density adults in this area, with occasional Scattered density adults in the Wharton Creek district..
- There was some rainfall during late September and the first half of October, which may have maintain some green vegetation in the eastern parts of this region.

Forecast

- The locust population level is likely to remain generally low during the remainder of spring and summer.
- Only sporadic low-density breeding is likely, given the very low background population.

- There is a very low probability of any immigration from other regions during the remainder spring or summer.

Risks

- There is a low risk of a widespread infestation developing during the remainder spring or 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 or sent through the website at <http://www.agriculture.gov.au/aplc>.

SOUTH AUSTRALIA

NORTHEAST AND FAR NORTH REGION**Locusts and conditions**

- Limited surveys were conducted in the Hawker–Yunta area of the Northeast at the beginning of October and did not detect any locusts.
- The Dulkaninna light trap did not record any locusts during October. The Oodnadatta light trap is currently not in operation.
- Vegetation was very dry.
- Apart from a few localised millimetres of rainfall in October, up to 25 mm fell in a few places at the beginning of November.

Forecast

- The locust population is likely to remain at very low density during the remainder of spring and summer.
- The current very low background population and ongoing drought conditions will limit any opportunities for breeding in this region.
- There is a low probability of migrations into these regions during the remainder of spring and summer.

Risks

- There is a low risk of a widespread infestation developing during the remainder of spring or 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 or sent through the website at <http://www.agriculture.gov.au/aplc>.

VICTORIA

NORTHWEST VICTORIA**Locusts and conditions**

- Limited surveys were conducted in Northwest Victoria with no locusts detected, and there were no reports of locust activity.
- Vegetation was dry.
- Only a few millimetres of rainfall were recorded in this area for the entire of October, but up to 25 mm was received during 2-4 November.

Forecast

- Locust numbers are likely to remain very low in this region during the remainder of spring and summer.
- There is a low probability of significant immigration from other states during the remainder of spring and summer.

Risks

- There is a low risk of a widespread infestation developing during the remainder of spring or 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 apl@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 ²		
Present	1	-	5
Numerous	6	-	30
Sub-band	31	-	80
Band		>	80

Adult Densities	Number per m ²		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:	apl@agriculture.gov.au
Website:	http://www.agriculture.gov.au/aplc