

warning level: **THREAT** (Ethiopia, Iran)

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 354

(1 April 2008)



General Situation during March 2008 Forecast until mid-May 2008

The Desert Locust situation continued to be serious during March in Ethiopia where swarms persisted in the south. It is not clear how many swarms are present but they are expected to move to the Ogaden region and perhaps to northern Somalia and breed in April if rains occur. Several swarms attacked farms in eastern Saudi Arabia and some egg laying was reported. Hatching from earlier swarm laying occurred on the southeast coast of Iran and more breeding is likely during April. Control operations were undertaken in Saudi Arabia, Iran and Ethiopia. Small infestations were treated in Mauritania and Algeria. Intensive survey and control efforts should continue in Ethiopia, Saudi Arabia and Iran during the forecast period.

Western Region. The situation remained calm during March. Small-scale breeding continued for the fifth consecutive month in northwest Mauritania, and scattered adults were present in parts of the Sahara in Algeria and in southeast Libya. Limited ground control operations were undertaken in Mauritania and Algeria. Due to continued insecurity, surveys could not be conducted in northern Mali and Niger where scattered adults are likely to be present, and will probably persist. No significant developments are likely during the forecast period.

Central Region. Some immature swarms persisted in southern Ethiopia during March but the situation is not very clear due to the difficult terrain and few

surveys. These swarms are likely to move from the south and the Harar Highlands to the Ogaden region and breed when the long rains begin in April. There is a low to moderate risk that a few swarms could move to northern Somalia. In eastern Saudi Arabia, more than 6,000 ha were treated during the first half of March on irrigated farms along the edge of the Empty Quarter. Hatching may occur in some places and hoppers could form small bands in April. No surveys were carried out and no locusts were reported in Eritrea, Djibouti, Yemen and Oman during March. No locusts were seen along the Red Sea in Sudan and Egypt, and only isolated adults were present on the coast in Saudi Arabia. Breeding this winter was limited due to poor rains and locust numbers did not increase significantly on either side of the Red Sea. Consequently, only low numbers of adults are likely to be present at the beginning of the summer breeding period in the interior of Sudan.

Eastern Region. Hatching started on the Strait of Hormuz coast in Iran in mid-March and egg laying continued in some coastal and interior areas in the southeast. More hatching will occur in April, which could cause hopper bands to form. Breeding is less likely to occur in Pakistan unless more rains fall. A 30-day joint Iran/Pakistan survey will be carried out in the spring breeding areas of both countries during April. No locusts were present in India.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by e-mail, FAO pouch and airmail by the Locusts and Other Migratory Pests Group, AGP Division, FAO, 00153 Rome, Italy. It is also available on the Internet.

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No. 354

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in March 2008

No significant rain fell in the recession area during March. Consequently, vegetation was dry and conditions were generally unfavourable for breeding except along the coast and in the interior of southeastern Iran.

In the **Western Region**, very little rain fell in March. Light showers may have occurred in parts of northern Mauritania, the central Sahara in Algeria and on the northeastern edge of the Air Mountains in Niger. In Mauritania, ecological conditions were dry except for a few isolated patches of green vegetation in the southern part of the Adrar region. In Western Sahara, vegetation was green in a few places in the northeast and southeast. In Morocco, vegetation began to dry out on the southern side of the Atlas Mountains. In Algeria, vegetation was dry in the Sahara except for irrigated agricultural areas near Adrar, In Salah and Tamanrasset. In Niger, green vegetation persisted in the central and eastern Air Mountains although some areas were starting to dry out.

In the **Central Region**, no significant rains fell during March. Vegetation was dry or drying out on the coastal plains along both sides of the Red Sea except for crops in the Tokar Delta. Vegetation was also dry in Djibouti and in northwest Somalia. In Oman, no rain fell and vegetation was drying out in central and northern areas. Rains began to fall in mid-March in southern Ethiopia but vegetation remained dry there as well.

In the **Eastern Region**, no significant rains fell during March. Nevertheless, vegetation was green and breeding conditions were favourable along the southeastern coast of Iran from Minab to the Pakistani border. Ecological conditions were improving in the southeastern interior of Iran, primarily in the Jaz Murian Basin, but remained dry in other parts of the spring breeding areas in Baluchistan, Pakistan.



Area Treated

Algeria	25 ha (26 March)
Ethiopia	355 ha (1-25 March)
Iran	730 ha (25-29 February) 930 ha (March)
Mauritania	3 ha (March)
Saudi Arabia	544 ha (25-29 February) 6,016 ha (1-11 March)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During March, scattered immature and mature solitary adults at densities up to 500 adults/ha persisted in the valleys of Kediet Imert south of Oujeft (2003N/1301W) in the Adrar region. Isolated first to third instar solitary hoppers were seen at two places. During the third decade of the month, a few adults were copulating and laying eggs, limited hatching was in progress, and solitary first to fourth instar hoppers were present in a few agricultural areas at densities up to 20 hoppers/m². On the 25th, ground teams treated 3 ha where adults were laying eggs and hoppers were forming small groups.

• FORECAST

Scattered hoppers will fledge and adults will continue to mature and persist near Oujeft. New hatching may occur in April and the resulting hoppers will fledge by the end of the forecast period. Consequently, locust numbers will continue to increase slightly in southwest Adrar.

Mali

• SITUATION

No surveys were carried out and no locusts were reported during March.

• FORECAST

Scattered locusts are likely to be present and will persist in parts of the Adrar des Iforas.

Niger

• SITUATION

No surveys were carried out due to insecurity and no locusts were reported from January to March.

• FORECAST

Low numbers of locusts are likely to be present and will persist in parts of the Air Mountains. Limited breeding could take place if conditions become favourable.

Chad

• SITUATION

No surveys were carried out and no locusts were reported during March.

• FORECAST

No significant developments are likely.

Senegal

• SITUATION

No surveys were carried out and no locusts were reported during March.

• FORECAST

No significant developments are likely.

Benin, Burkina Faso, Cameroon, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria, Sierra Leone and Togo

• FORECAST

No significant developments are likely.

Algeria

• SITUATION

During March, locust numbers declined slightly but some scattered mature solitary adults persisted near irrigated agricultural areas in parts of the Sahara near Adrar (2753N/0017W), In Salah (2712N/0229E) and west of Tamanrasset (2250N/0528E). Some adults were copulating near Adrar and Tamanrasset during the first week of the month. On the 26th, ground teams treated 25 ha of mature solitary adults at densities of 500-600 adults/ha near Illizi (2630N/0825E).

• FORECAST

Scattered adults will persist in parts of the Sahara and small-scale breeding could occur near Adrar, In Salah, Djanet, Illizi and south and west of Tamanrasset, causing locust numbers to increase slightly.

Morocco

• SITUATION

No locusts were reported in March.

• FORECAST

No significant developments are likely.

Libyan Arab Jamahiriya

• SITUATION

In the southeast, scattered solitary adults were present near Jebel Uweinat (2154N/2458E) and Jebel Arkenu (2215N/2445E), and in irrigated fields at Kufra (2411N/2315E) on 12-16 March.

• FORECAST

Scattered adults may be present in the southwest near Ghat and could breed on a limited scale if rains fall. Low numbers of adults may persist in the southeast.

Tunisia

• SITUATION

No surveys were carried out and no locusts were reported during February and March.

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

A late report indicated that gregarious hoppers and solitary adults were seen at a few places in Wadi Diib northwest of Sufiya (2119N/3613E) by a joint Egyptian/Sudanese survey from 30 January to 7 February.

During March, no locusts were seen in the Tokar Delta on the Red Sea coast.

• Forecast

No significant developments are likely.

Eritrea

• SITUATION

No surveys were carried out and no locusts were reported during March.

• FORECAST

No significant developments are likely.

Ethiopia

• SITUATION

During March, an unknown number of immature swarms persisted in the southern zones of Borena, South Omo and Gamo Gofa near Konso (0520N/3726E) and in the West Harerghe zone of the Harar Highlands about 250 km southwest of Dire Dawa (0935N/4150E). Survey and control operations continued to be hampered by the rugged terrain and the highly mobile swarms which split into smaller less dense swarmlets moving in different directions. Ground teams treated 85 ha and an aircraft treated 270 ha on 1-25 March.

• FORECAST

Swarms are likely to remain in the Harar Highlands and the Rift Valley where they could mature and lay eggs there or move toward the Ogaden and breed with the onset of the long rains in April. If breeding occurs in the Ogaden, hopper bands are likely to form in April and May. There is a low risk that a few swarms could move north along the railway or northwest towards the Danakil.



No. 354



No. 354

DESERT LOCUST BULLETIN

Djibouti

- SITUATION

No surveys were carried out and no locusts were reported during March.

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

No locusts were seen during surveys carried out in March on the northwest coastal plains between Djibouti and Berbera (1028N/4502E). An individual mature adult was seen near the coast east of Berbera on the 27th.

- FORECAST

There is a low to moderate risk that a few swarms may appear from Ethiopia on the plateau and along the escarpment.

Egypt

- SITUATION

A late report indicated that a few solitary adults were seen in Wadi Diib near the Sudanese border by a joint Egyptian/Sudanese survey from 30 January to 7 February.

No locusts were seen during surveys carried out in March along the Red Sea coast between Shalaty (2308N/3535E) and the Sudanese border, along both sides of Lake Nasser, in the Western Desert at Sh. Oweinat (2219N/2845E), on the northwest coast between Salum and Mersa Matruh (3120N/2713E) and in coastal and interior areas of the Sinai Peninsula.

- FORECAST

No significant developments are likely.

Saudi Arabia

- SITUATION

On 25-28 February, seven swarms were reported to have arrived on irrigated farms on the northwest edge of the Empty Quarter near Yabreen (2313N/4856E). Most of the swarms were immature at densities of up to 200 adults/m² and ranged in size from 3 to 10 km². They attacked wheat, fodder and palm trees. Some of the adults dispersed into small groups at densities up to 3,000 adults/ha and laid eggs at several places near Yabreen from 28 February to 8 March. A few swarms were reported about 400 km to the southwest

on the eastern side of W. Dawasir (2024N/4605E) on 6-10 March. One immature swarm was seen about 300 km north of Yabreen near the Persian Gulf and Jubail (2700N/4939E) on the 6th. A total of 6,560 ha were treated by three aircraft and 61 ground teams from 25 February to 11 March.

On the Red Sea coast, isolated immature solitary adults were seen at two places north of Jeddah (2130N/3910E) on 2 March. No locusts were seen on the coast near Qunfidah (1909N/4107E).

- FORECAST

As breeding is likely to have occurred on some farms on the edge of the Empty Quarter, small hopper groups and bands may form and, if not controlled, could lead to small adult groups or swarms by mid May.

Yemen

- SITUATION

No surveys were carried out during March.

- FORECAST

Scattered adults may be present along parts of the Red Sea and Gulf of Aden coastal plains. Small-scale breeding could occur if rains fall.

Oman

- SITUATION

No surveys were carried out and no locusts were reported during March.

- FORECAST

Scattered adults and perhaps a few small groups may have remained in parts of Dhahira, Dakhliya, Sharqiya, Batinah and Musandam regions from the immature swarms that passed through these areas in February. Small-scale breeding could occur in areas where conditions are favourable. Regular surveys are recommended in all areas.

Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, Uganda and UAE

- FORECAST

No significant developments are likely.

EASTERN REGION

Iran

- SITUATION

During the last week of February and first week of March, several swarms laid eggs on the coast along the Strait of Hormuz between Minab (2708N/5705E) and Jask (2540N/5746E), and solitary adults, at densities up to about 200 adults/ha, laid eggs further east on the coastal plains near Chabahar (2517N/6036E). The unconfirmed swarm report on the southern coast at Bande-Kong (2635N/5456E) on 27 February was found not to be Desert Locust.

During the second half of March, hatching commenced on the coast near Minab on the 17th, and ground teams treated 240 ha of first instar transiens hoppers on 19-28 March. In the interior, solitary adults laid eggs near Bampur (2711N/6028E) on the 12th and a swarm laid eggs in the Jaz Murian basin southeast of Kahnuj (2757N/5742E) on the 24th. Breeding also occurred on the coast where mature solitary adults were present near Chabahar and a swarm laid eggs on the 29th near the Pakistani border. Control operations treated 1,660 ha from 25 February to 30 March.

• **FORECAST**

Hatching will occur in April on the coast between Minab and Jask, and to a lesser extent near Chabahar and in the Jaz Murian basin. Small hopper groups and bands are expected to form in these areas and, if not controlled, a few small swarms could form by mid-May. Small-scale breeding by solitary adults will also occur on the coast and in the interior near Bampur and the Jaz Murian Basin. Consequently, locust numbers will increase in the spring breeding areas.

Pakistan

• **SITUATION**

During March, isolated mature solitary adults were present on the Baluchistan coast west of Karachi near Lasbela (2614N/6619E). No locusts were seen during surveys carried out near Turbat (2600N/6303E).

• **FORECAST**

Scattered locusts are almost certainly present in coastal areas of Baluchistan between Iran and Lasbela, probably in the interior near Turbat, Panjgur, Kharan, and perhaps near Dalbandin and Nushki. Small-scale breeding is likely to occur if additional rains fall during the forecast period.

India

• **SITUATION**

No locusts were seen during surveys carried out in Rajasthan during March.

• **FORECAST**

No significant developments are likely.

Afghanistan

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

 **Announcements**

Locust reporting. During recession periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow) and threat (orange) periods, locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the last survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLO Desert Locust Information Service (eclo@fao.org). Information received by the end of the month will be included in the FAO Desert Locust Bulletin for the current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

Desert Locust warning levels. A colour-coded scheme indicates the seriousness of the current Desert Locust situation: green for *calm*, yellow for *caution*, orange for *threat* and red for *danger*. The scheme is applied to the Locust Watch web page and to the monthly bulletin's header. The levels indicate the perceived risk or threat of current Desert Locust infestations to crops and appropriate actions are suggested for each level.

Climate change. Potential impacts of climate change on Desert Locust are under discussion. More details can be found on Locust Watch in the Activities section (<http://www.fao.org/ag/locusts/en/activ/index.html>).

Google group. FAO DLIS has established a Google group for national locust information officers to exchange opinions and share experiences regarding data management and analysis, GIS, eLocust2 and satellite imagery. Interested information officers should contact DLIS (eclo@fao.org) for details.

MODIS imagery. Columbia University's International Research Institute for Climate and Society (IRI) provides 16-day 250-metre resolution MODIS imagery as well as daily and decadal rainfall imagery for monitoring breeding conditions in the Desert Locust recession area. These products can



No. 354

DESERT LOCUST BULLETIN

page 5 of 8



No. 354

DESERT LOCUST BULLETIN

be downloaded in different formats suitable for GIS at: http://iridl.ideo.columbia.edu/maproom/Food_Security/Locusts/index.html. Comments and questions can be addressed to Pietro Ceccato (pceccato@iri.columbia.edu).

New information on Locust Watch. Recent additions to the web site are:

- **Locust situation.** Several updates during March (home page and in Archives section)
- **Locust recipes.** A few new ways to eat locusts (Locust FAQs section)
- **Internet sites.** Updated links to locust information on the Internet (Links section)

Links to the above information can be found in the *Latest Additions* section on Locust Watch.

2008 events. The following activities are scheduled:

- **Joint Survey.** Iran/Pakistan joint border survey (1-30 April)
- **EMPRES/WR.** Mid-term review of the World Bank AELP project, Bamako (7-11 April)
- **CRC/SWAC.** Informal discussions on the use and improvement of RAMSES, eLocust2 and forecasts, Cairo (22-24 April)
- **EMPRES/WR.** Regional contingency planning workshop, Bamako (28 April – 2 May)
- **CRC.** Sub-regional training course, UAE (24 May – 3 June)
- **CRC.** 26th Session and 30th Executive Committee meeting, Muscat (26-30 July)
- **CLCPRO.** 5th Executive Committee meeting, Ouagadougou (20-22 October, to be confirmed)
- **EMPRES/WR.** 7th Liaison Officers meeting, Niamey (24-28 November, to be confirmed)
- **EMPRES/WR.** 4th Steering Committee meeting, Niamey (1-3 December, to be confirmed)
- **SWAC.** 26th Session, Kabul (15-17 December, to be confirmed)



Glossary of terms

The following special terms are used in the Desert Locust Bulletin when reporting locusts:

NON-GREGARIOUS ADULTS AND HOPPERS

ISOLATED (FEW)

- very few present and no mutual reaction occurring;
- 0 - 1 adult/400 m foot transect (or less than 25/ha).

SCATTERED (SOME, LOW NUMBERS)

- enough present for mutual reaction to be possible but no ground or basking groups seen;
- 1 - 20 adults/400 m foot transect (or 25 - 500/ha).

GROUP

- forming ground or basking groups;
- 20+ adults/400 m foot transect (or 500+/ha).

ADULT SWARM AND HOPPER BAND SIZES

VERY SMALL

- swarm: less than 1 km² • band: 1 - 25 m²

SMALL

- swarm: 1 - 10 km² • band: 25 - 2,500 m²

MEDIUM

- swarm: 10 - 100 km² • band: 2,500 m² - 10 ha

LARGE

- swarm: 100 - 500 km² • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km² • band: 50+ ha

RAINFALL

LIGHT

- 1 - 20 mm of rainfall.

MODERATE

- 21 - 50 mm of rainfall.

HEAVY

- more than 50 mm of rainfall.

OTHER REPORTING TERMS

BREEDING

- the process of reproduction from copulation to fledging.

SUMMER RAINS AND BREEDING

- July - September/October

WINTER RAINS AND BREEDING

- October - January/February

SPRING RAINS AND BREEDING

- February - June/July

DECLINE

- a period characterised by breeding failure and/or successful control leading to the dissociation of swarming populations and the onset of recessions; can be regional or major.

OUTBREAK

- a marked increase in locust numbers due to concentration, multiplication and gregarisation

which, unless checked, can lead to the formation of hopper bands and swarms.

UPSURGE

- a period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to- gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust regions.

PLAGUE

- a period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms. A major plague exists when two or more regions are affected simultaneously.

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

- period of deep recession marked by the complete absence of gregarious populations.

WARNING LEVELS

GREEN

- Calm. No threat to crops. Maintain regular surveys and monitoring.

YELLOW

- Caution. Potential threat to crops. Increased vigilance is required; control operations may be needed.

ORANGE

- Threat. Threat to crops. Survey and control operations must be undertaken.

RED

- Danger. Significant threat to crops. Intensive survey and control operations must be undertaken.

REGIONS

WESTERN

- locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Niger, Senegal, Tunisia; during plagues only: Burkino Faso, Cape Verde, Gambia, Guinea and Guinea-Bissau.

CENTRAL

- locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during plagues only: Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria, Tanzania, Turkey, UAE and Uganda.

EASTERN

- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



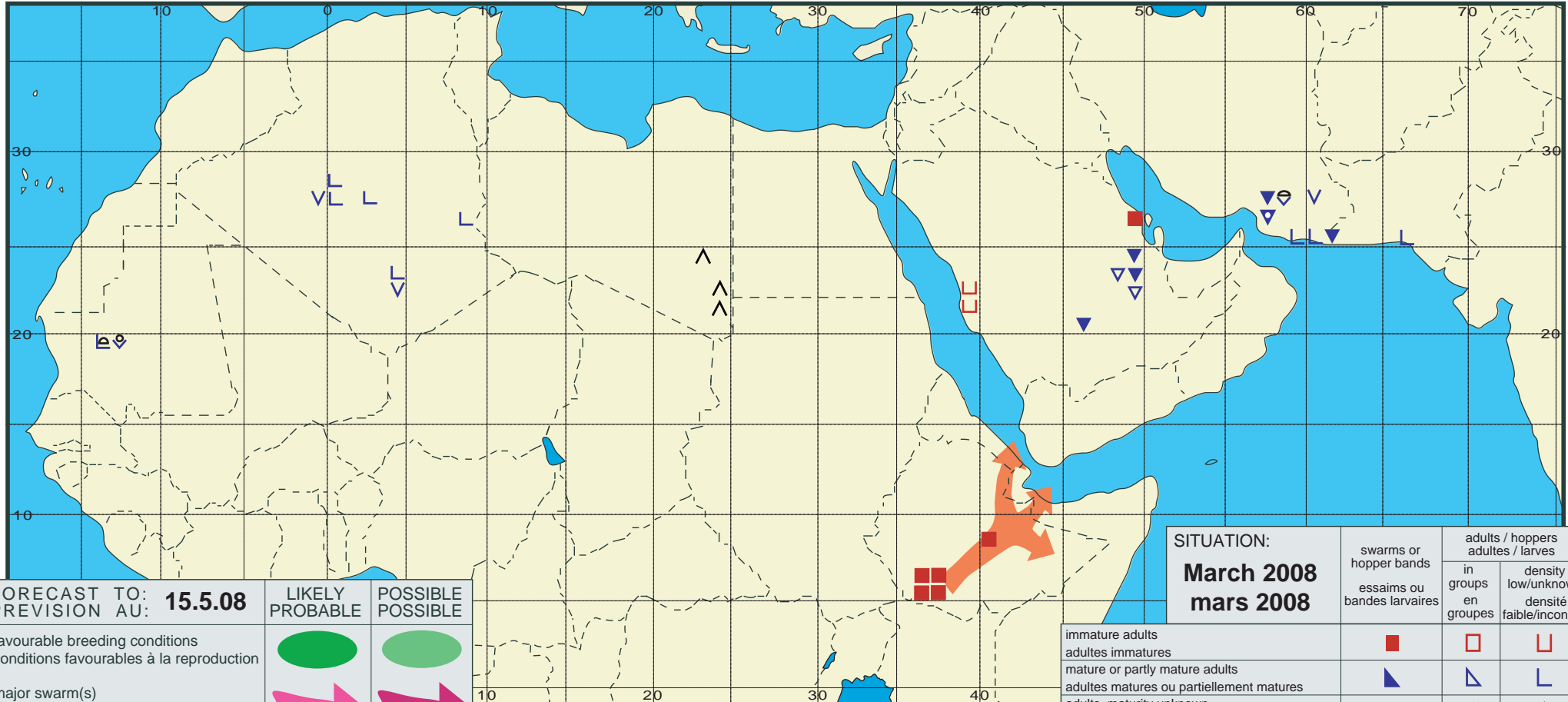
No. 354



Desert Locust Summary

Criquet pèlerin - Situation résumée

354



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.5.08		
favourable breeding conditions conditions favorables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

SITUATION:
March 2008
mars 2008

	swarms or hopper bands	adults / hoppers adultes / larves	
	essaims ou bandes larvaires	in groups en groupes	density low/unknown densité faible/inconnue
immature adults adultes immatures			
mature or partly mature adults adultes matures ou partiellement matures			
adults, maturity unknown adultes, maturité inconnue			
egg laying or eggs pontes ou œufs			
hoppers larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			