



Title	Environmental considerations in a locust control response	Version	2
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Authorised by	Director, Emergencies and Animal Welfare	Authorisation date	24/08/2009

1. OVERVIEW

In NSW, there are three declared pest insects (Australian plague locust, Spur-throated locust and Migratory locust). All three species can cause significant physical damage to pastures and crops thereby creating significant economic impacts. The Australian plague locust is the most recurrent of these three declared pest insects. When managing these pest insects environmental considerations must be taken into account.

2. BACKGROUND

The protection of environmentally sensitive areas is important when undertaking locust control work. Therefore, it is important to gather information on possible environmentally sensitive sites as early as possible. Early information gathering is not feasible in all situations, therefore careful pre-control planning must be undertaken to identify possible sites before control commences. Potential off-site impacts should be considered when deciding when and where to undertake control. There are legislative requirements that must also be taken into consideration when planning and conducting locust control campaigns.

3. SCOPE

This policy is issued with the concurrence of the Director-General of I&I NSW under Clause 6.2 of the Memorandum of Understanding between the Director-General of I&I NSW and State Management Council of the Livestock Health and Pest Authorities.

Before any locust control is undertaken all reasonable care should be taken to identify environmentally sensitive areas. It is recognised that it may not be feasible to identify all environmentally sensitive areas as they may not be obvious. A risk management approach should be applied on a case-by-case basis assessing the suitability of controlling locusts. Environmentally sensitive areas may include:

- rivers and watercourses, including dry watercourses;
- tanks, troughs and dams;
- apiary sites and beehives;
- any area identified by the occupier or neighbouring occupier as a concern;
- feeding areas of native bird species such as Ibis, which are highly mobile;
- habitat areas of threatened species such as the Plains wanderer and Bush-stone curlew;
- biological control sites;
- aquaculture,
- organic farms; and
- others as identified (such as school bus runs, dwellings, chemically sensitive individuals).

There will be instances where locust control will not be feasible due to restrictions. There will also be cases where control may be deferred by a few days, such as to allow the removal of bee hives.

4. POLICY

Locust control entails environmental considerations. A risk assessment must be undertaken prior to the application of any insecticide for the control of locusts. It is an offence under section 15 of the *Pesticides Act 1999* to contravene the insecticide label requirements, including those applying to the environment.

Under the *Rural Lands Protection Act 1998*, the Crown, the Minister and other persons are not liable for compensation or damage arising from plague locust control unless damage or loss is caused wilfully, negligently or maliciously.

4.1. Rivers, watercourses, tanks, troughs and dams (including dry watercourses)

The following criteria and considerations for spraying near rivers, watercourses, dams and dry watercourses have been agreed to in consultation with the Department of Environment, Climate Change and Water (DECCW). Insecticide users should use a risk management approach on a case by case basis to assess the suitability to spray an area to control plague locusts where waterways exist (including dry waterways). A risk assessment should be undertaken to establish whether the following criteria can be met:

- low likelihood of a rainfall event causing runoff in the three days following spraying (as a rule, total rainfall of less than five millimetres in the three days following spraying would usually meet this criteria);
- safe to spray with the prevailing wind conditions;
- no water bodies or surface water in the area including wetlands, aquatic reserves, areas containing sensitive aquatic life is present (for example frogs), or water bodies used for stock feeding, drinking or recreation;
- low likelihood of the locusts moving to other areas where they may be more easily controlled. Also consider whether there will be a high probability of locusts moving to other areas, thereby increasing the extent of locust impact and reducing the efficiency of control;
- if runoff does occur, that there is low likelihood that it will drain into a more permanent waterway or water storage;
- that areas immediately adjacent to the waterways do not constitute identified habitat or buffers for the threatened Plains-wanderer or Bush Stone-curlew; and
- that waterway/s are not within National Parks.

Following a risk assessment, spraying the area as part of a locust control program may be undertaken if all criteria can be met. A record of the risk assessment and decision must be kept.

Under the *Protection of the Environment Operations Act 1997* (section 120), it is an offence to pollute waters. There are also other legislative and insecticide label requirements that must be considered.

An option is to cover tanks and troughs prior to spraying to avoid contamination.

4.2. Apiary sites and beehives

Bees are particularly sensitive to insecticides used to control locusts. It is important that apiarists are advised of the potential for losses due to ground or aerial spraying for locusts in areas where apiary sites may be present.

Notification to apiarists of large ground and aerial locust control campaigns can occur through Industry & Investment NSW (I&I NSW) and Livestock Health and Pest Authorities (LHPAs). I&I NSW Regulatory Officers (Apiary) should be advised, they in turn will notify contacts of all associations/groups represented on the Bee Industry Consultative Committee. These associations will in turn inform their members. LHPA offices also maintain registers of apiarists using sites on Travelling Stock Reserves whose staff can notify apiarists. Press and radio information will also warn apiarists of areas and dangers. I&I NSW Regulatory Officers (Apiary) can also provide warning information for publication in beekeeping journals and newsletters in NSW.

When small campaigns are being undertaken on an individual LHPA basis, the LHPA is responsible for ensuring that all known apiarists are informed of the potential for spraying in the area and the potential hazard to bees. Notification of potential locust control should occur through whatever channels the LHPA feel is most appropriate. The LHPA should also make every effort to avoid putting any apiary sites on LHPA land when the spraying of locusts is likely to occur.

Apiarists should heed advice issued by the LHPA, government agencies or other means on how to reduce bee losses from spray which may be used in campaigns against both nymph and adult plague locusts. Without heeding this advice, bee losses can be expected.

All efforts must be made to minimise bee losses from either locust nymph or swarm control programs. Reducing bee losses from locust control is a co-operative effort between all stakeholders.

4.3. Threatened species/habitats (e.g. Plains-wanderer, Bush Stone-curlew)

Under the *Threatened Species Conservation Act 1995*, certain animals and habitats are protected. Therefore, in consultation with the DECCW, agreed buffers have been put in place for aerial and ground control in areas where threatened species or threatened species habitats have been recorded. The use of Metarhizium in mapped Bush Stone-curlew and Plains-wanderer primary and secondary habitats may be a control option. It is also important to consider the feeding areas of native bird species such as Ibis, which are highly mobile. When conducting a risk assessment for control of locusts near environmentally sensitive areas, factor in the buffers and the requirements of the insecticide label.

If environmental factors limit the use of certain insecticides such as Fenitrothion, biological control may be undertaken using Metarhizium (also known as Green Guard®).

The following criteria and considerations for spraying near rivers, watercourses, dams and dry watercourses have been agreed to in consultation with the DECCW specifically for Plains-wanderer and Bush Stone-curlew:

1. Plains-wanderer habitat and buffers:

- DECCW supports the use of biological control agents such as Metarhizium in mapped Plains-wanderer primary and secondary habitat areas;
- if mapping is incorrect (e.g. habitat mapped is now a crop) then no restrictions apply to the use of locust insecticides;
- if mapping is incorrect, the Australian Plague Locust Commission (APLC) or I&I NSW need to inform DECCW so that DECCW mapping can be corrected;
- in cases where APLC or I&I NSW believe spraying of locust insecticides other than a biological control agent is necessary, DECCW will provide 24 hour/seven day contact through a nominated person. DECCW will also provide rapid advice to APLC or I&I NSW regarding whether any proposed spraying is a significant matter or not (e.g. if small and isolated patch then probably not a significant issue); and
- where the application of locust insecticide other than biological control agent is proposed adjacent to a mapped habitat area, then the following buffer zones will be applied:
 - 1 km aerial spray buffer around primary and secondary habitat
 - 300 m ground rig spray buffer around primary and secondary habitat.

2. Bush Stone-curlew habitat and buffers:

- the use of biological control agent in mapped Bush Stone-curlew habitat areas is not subject to any restrictions;
- where application of a locust insecticide other than a biological control agent is proposed to an area containing mapped Bush Stone-curlew habitat, then the buffers around the point locations should be 2.3 km for ground control and 3 km for aerial control, and
- if new Bush Stone-curlew records become available to DECCW, they will be provided to the APLC and I&I NSW as soon as possible.

4.4. Biological control sites

There are over 2,000 release sites in NSW for biological control agents such as the Paterson's Curse weevil, and these have been prioritised to only include the more critical sites. I&I NSW has agreed buffers in place for aerial and ground control in areas where important biological or nursery sites exist. The use of *Metarhizium* in mapped biological control sites may be a control option. When conducting a risk assessment for control of locusts near biological nursery sites, factor in the buffers, the requirements of the insecticide label and the possibility that the insects in the site may move from the original release site seeking food and more favourable conditions. This can be done in consultation with I&I NSW weeds officers.

4.5. Organic and aquaculture farms

There are likely to be some organic farms (e.g. restricted chemical use, aquaculture) within areas conducting locust control program. It is important to seek the status of properties from the owners/managers prior to conducting any control programs.

Metarhizium is a biological control agent used in these situations and can be issued for use in environmentally sensitive areas such as demonstrated organic accredited properties or those actively engaged in the process of achieving organic accreditation.

Spray contractors applying *Metarhizium* on certified organic properties require an approved decontamination procedure from the relevant organic certifying organisations.

4.6. Other areas identified (e.g. an area identified by the occupier or neighbouring occupier, occupied dwelling)

There may be other incidences where an area is identified as being environmentally sensitive and this must be considered. Such areas may include school bus runs, residential dwellings or to allow a crop to be harvested. It may also include farms where chemically sensitive individuals live.

Insecticide cannot be applied aerially with 150 metres of any occupied dwelling.

Metarhizium may be issued for control on properties where the people living/working on the property are sensitive to other insecticides.

5. PROCEDURES

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6. DEFINITIONS/ABBREVIATIONS

abiotic – inanimate, non-living.

animal – (as per the *Threatened Species Conservation Act, 1995*) means any animal-life that is indigenous to New South Wales or is known to periodically or occasionally migrate to New South Wales, whether vertebrate or invertebrate and in any stage of biological development (including species, populations and ecological communities).

APLC – Australian Plague Locust Commission

biotic – relating to life or living things.

DECCW – Department of Environment, Climate Change and Water

ecological community – (as per the *Threatened Species Conservation Act, 1995*) means an assemblage of species occupying a particular area.

habitat – (as per the *Threatened Species Conservation Act, 1995*) means an area or areas occupied, or periodically or occasionally occupied, by a species, population or ecological community and includes any biotic or abiotic component.

LHPA – Livestock Health and Pest Authorities (formerly known as Rural Lands Protection Boards)

I&I NSW – Industry & Investment NSW (formerly NSW Department of Primary Industries)

population – (as per the *Threatened Species Conservation Act, 1995*) means a group of organisms, all of the same species, occupying a particular area.

threatened species – (as per the *Threatened Species Conservation Act, 1995*) populations and ecological communities’ means species, populations and ecological communities specified in Schedules 1, 1A and 2 and ‘threatened species, population or ecological community’ means a species, population or ecological community specified in any of those Schedules within the *Threatened Species Conservation Act, 1995*.

7. RELATED LEGISLATION

- [National Parks and Wildlife Act 1974](#)
- [Pesticides Act 1999](#) and [Pesticides Regulation 2009](#)
- [Protection of the Environment Operations Act 1997](#)
- [Rural Lands Protection Act 1998](#)
- [Threatened Species Conservation Act 1995](#)

8. RELATED POLICIES

- [O-049 Use of insecticides for plague locust control](#)

9. RELATED DOCUMENTS

- [Primefact - Reducing damage to honey bees](#)
- [Primefact - Guide to pesticides on honey bees](#)

10. REVISION HISTORY

Version	Date	Amendments
1	2 January 2009	For approval
2	17 August 2009	Update NSW DPI to I&I NSW

11. DATE OF NEXT REVIEW

30 June 2010

12. CONTACT OFFICER

Manager, General Emergency Preparedness & Response (Emergencies & Animal Welfare Branch).