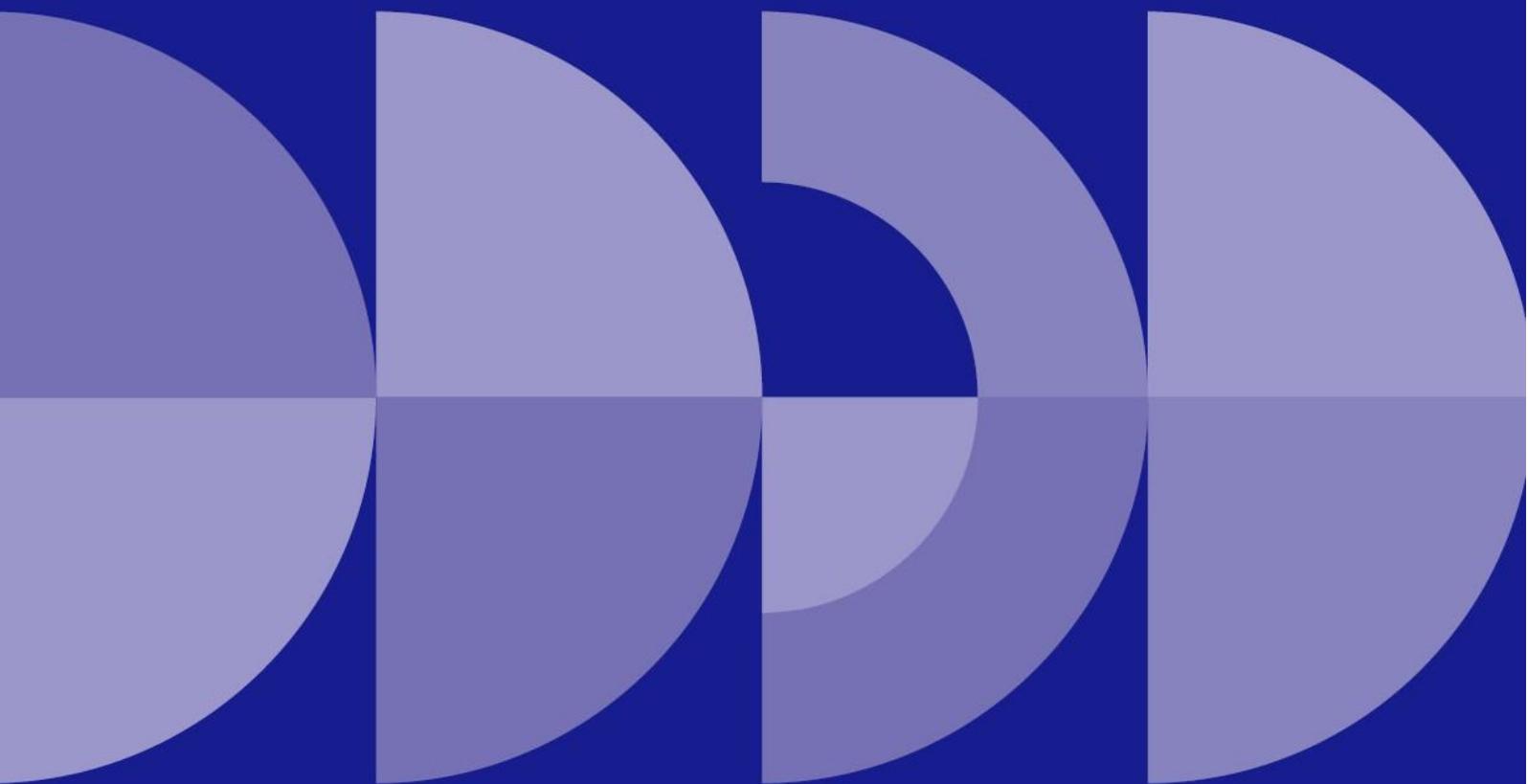


# Exotic Mosquito Interception Response Plan

Biosecurity Act 1993, Health Act 1956 & WHO International  
Health Regulations 2005



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## TERMS AND ABBREVIATIONS

<b>AA</b>	Auckland Airport (the location)
<b>AIAL</b>	Auckland International Airport Limited (The Airport Company)
<b>Airside</b>	The movement area of an aerodrome, adjacent terrain and buildings or portions thereof, access to which is controlled.
<b>BCA</b>	Biosecurity Control Area
<b>CTO</b>	Chief Technical Officer of NPHS
<b>CDTO</b>	Chief Deputy Technical Officer of NPHS
<b>EMI</b>	Exotic Mosquito Interception
<b>HPO</b>	Health Protection Officer
<b>IHR</b>	World Health Organisation International Health Regulations 2005
<b>Interception</b>	Where a risk organism, not known to be present in New Zealand, is found but there is no evidence that a self-sustaining/breeding population is present. Destroying/treating the risk organism removes the threat.
<b>ITB</b>	International Terminal Building
<b>Landside</b>	That portion of an aerodrome not designed as airside and to which the public normally has free access.
<b>MPI</b>	Ministry for Primary Industries
<b>NPHS</b>	National Public Health Service (Wellington based branch of the Ministry of Health)
<b>NPHS (Northern)</b>	Previously ARPHS.
<b>NZBEL</b>	New Zealand Biosecure Entomology Laboratory
<b>POC</b>	Point of Contact
<b>OCC</b>	Operations Control Centre
<b>SMS</b>	Southern Monitoring Service (AIAL's current Mosquito surveillance contractor)
<b>TF</b>	Transitional Facility

# SECTION 1 - GENERAL

## 1.1 BACKGROUND AND PURPOSE

- 1.1.1 This document is promulgated to ensure that the exotic mosquito interception (or pests of public health significance) responses are well coordinated among the relevant agencies as listed in Section 1.2. It states the roles and responsibilities of each organisation and the structure of response during an exotic mosquito interception.
- 1.1.2 This document extends out of the Pest Management Steering Group Terms of Reference document and both documents should be referenced when coordinately responding to an exotic mosquito interception.
- 1.1.3 Because of the potential high risk posed to New Zealand's biosecurity and public health, any mosquito captured or seen in the immediate vicinity of an international aircraft, is to be treated as if it is exotic until identification by NZBEL or other MPI / Te Whatu Ora NPHS / NPHS (Northern) authorised laboratory proves otherwise.
- 1.1.4 Any mosquito captured or seen outside or away from international aircraft are to be tested to identify the origin with a 'wait and see' approach taken. Refer to Auckland Airport Pest Management Plan for the 400-meters radius mosquito control zone area map.

## 1.2 AGENCY ROLE STRUCTURE IN RESPONSE PROCESS

### 1.2.1 NPHS

- 1.2.1.1 Provide general guidance on legislation and policy including operational policy, funding and tools to ensure risks from pests of public health significance at POE are mitigated.
- 1.2.1.2 The CTO (Health) may exercise any relevant powers under the Biosecurity Act 1993 at any time during the interception response to direct others to undertake actions to mitigate risks to public health.
- 1.2.1.3 Where necessary, ensure that the Ministry of Health and other national level stakeholders are kept informed.
- 1.2.1.4 May support communications and public messaging as necessary.
- 1.2.1.5 In the event of a difference of professional opinion regarding the appropriate response between stakeholders, the NPHS will confirm the course of action required.
- 1.2.1.6 NPHS advises the following surveillance frequency:
- Routine Surveillance – Larval sampling and adult trapping throughout the airport precinct, weekly in summer and fortnightly in winter.
  - Enhanced Surveillance
  - Larval traps checked twice a week in warmer months (1 October to 31 May) and weekly in cooler months (1 April to 30 September), but no more frequent than every three days.

- Adult traps should be checked three times a week (e.g. Monday, Wednesday and Friday) with no more than 2 days between checks.
- Carried out for three breeding cycles or as directed by NPHS.
- Larval traps must be treated with S-methoprene so there is no likelihood of larvae reaching adulthood.

1.2.1.7 Nationally coordinate the Code DIAMOND process and supporting the local delivery by NPHS (Northern) – refer to Section 7.

## **1.2.2 NPHS (Northern)**

1.2.2.1 Lead agency for Code EMERALD and SAPPHIRE process – refer to Sections 5 and 6 respectively. NPHS (Northern) also coordinates the operational responses of all EMERALD, SAPPHIRE and DIAMOND processes.

1.2.2.2 Determine scope of delimit survey based on recent surveillance activities and findings and the potential risk posed by the interception. Complete full delimit survey and check all traps in accordance with current NPHS (Northern) operational procedures. Delimit survey includes treatment of identified breeding habitats or as directed by the CTO.

1.2.2.3 Provide regular sitrep reports to the relevant agencies. If the delimit surveys and enhanced surveillances confirm breeding of exotic or unwanted mosquito species, NPHS (Northern) will consult with NPHS to discuss appropriate management of the response and the resourcing required.

1.2.2.4 A number of HPOs have powers under the Biosecurity Act 1993 to request for actions to be taken during an exotic mosquito interception response.

## **1.2.3 SMS**

1.2.3.1 Provide contracted service to AIAL to carry out regular surveillance as prescribed frequency and enhanced surveillance during an exotic mosquito interception response. Any extension or addition of response service required for on top of the current agreement must be consulted with AIAL before proceeding.

1.2.3.2 Support NPHS (Northern) led interception response as necessary, participate in initial response online meeting and thereafter as a member of the daily debrief and planning meeting.

1.2.3.3 Provide technical support with current intelligence as required for delimit survey and physical support with enhanced surveillance of personnel and equipment.

## **1.2.4 AIAL**

1.2.4.1 Supports delimit survey undertaken by NPHS (Northern) and enhanced surveillance by SMS with required resource deployments such as airside escorts.

- 1.2.4.2 Raise awareness and enforce compliance with tenancies, construction sites and common use areas to ensure housekeeping standards are maintained at a high level to mitigate potential mosquito breeding habitats.
- 1.2.4.3 Ensure notification of pests of public health significance are reported to the Chief Operations Officer, Head of Airport Operations and Head of Risk, Compliance and Assurance.
- 1.2.4.4 Ensure required mitigation measures and controls are implemented.
- 1.2.4.5 Holds the contractual agreement with SMS to provide regular and enhanced surveillance service at the Auckland Airport precinct. AIAL must be consulted with before any extension or addition of response service is requested for on top of the current agreement.

## **1.2.5 NZBEL**

- 1.2.5.1 Provide mosquito (adult/larvae) species identification, including referring exotics for confirmatory ID, and specialist entomology services.
- 1.2.5.2 Provide advice in conjunction with NPHS on enhanced surveillance required, such as placement of traps, length and frequency of surveillance.
- 1.2.5.3 Provide technical advice on surveillance equipment, techniques and mosquito species.

## **1.2.6 MPI**

Notify NPHS (Northern) contact centre during business hours, or after hours on-call service of any mosquito detections at Auckland Airport, including within the ITB or TFs and BCAs in the wider Airport precinct.

## SECTION 2 – PREPARATION AND PLANNING

- 2.1 AIAL Operations team has received biosecurity awareness training and has developed operating procedures to log any calls, pass on any biosecurity reports to MPI and provide assistance.
- 2.2 Auckland Airport contracts SMS to undertake monitoring of mosquito traps, cesspits and naturally occurring water areas, as well as identifying areas where additional cleaning of cesspits is required to prevent mosquito breeding areas and administering s-methoprene to control mosquito activity in high-risk areas.
- 2.3 AIAL has in conjunction with SMS, installed a series of specific pest management traps for exotic and local mosquito species throughout the 400-meters zone of where international aircraft are unloaded and passengers processed. These traps are mapped in AIAL own MAPI system.
- 2.4 Additional traps such as CO<sub>2</sub> light traps (in non-public areas), BG and GAT traps may also be brought in at short notice to provide extra surveillance when required (such as when Code SAPPHIRE or DIAMOND applies). The agency to deploy these additional traps is depending on the location of interception and the species of mosquito, which will be recommended by NZBEL at the time of interception.

## SECTION 3 – INTERCEPTION RESPONSE CONTACTS

Below is a list of key contacts of all agencies involved in an exotic mosquito interception response. The primary contact list should be used first for coordinating the response. If the primary contacts are unavailable or there is a need to escalate the response, then use the secondary contact list.

Agency	Role	Name	Phone	Email
<b>Primary Contact</b>				
<b>NPHS (Northern)</b>	Duty Health Protection Officer (24 hours)		09 623 4600	
<b>NPHS</b>	On-Call Staff		0800 GET MOH	notifyenvhealth@health.govt.nz
<b>SMS</b>	Environmental Manager	Shaun Maclaren	021 286 7412	shaun.maclaren@smsl.co.nz
<b>AIAL EMI Rep</b>	Operations Risk and Assurance Advisor	Sam Yun	022 646 8099	sam.yun@aucklandairport.co.nz
<b>AIAL OCC (if after hours)</b>	Duty Supervisor		09 256 8882	duty.supervisor@aucklandairport.co.nz
<b>NZBEL</b>	On-Call Entomologist		021 522 476	
<b>MPI</b>	Airport Local On-Duty CQO		09 909 8615	
<b>Secondary Contact</b>				
<b>NPHS (Northern)</b>				
<b>NPHS</b>	Principal Advisor – Protection	Sally Giles	021 921 220	sally.giles@health.govt.nz
<b>SMS</b>	Technical Assistant	Brent Morris	027 271 0724	b.j.morris@xtra.co.nz
<b>AIAL EMI Rep</b>	<b>AIAL OCC</b>	Duty Supervisor	09 256 8882	duty.supervisor@aucklandairport.co.nz
<b>NZBEL</b>	Principal Entomologist	Mariana Musicante	021 0299 7503	mariana.musicante@smsl.co.nz
<b>MPI</b>	Auckland Airport Manager	Henk van Zyl	027 736 8013	

# SECTION 4 – INITIAL RESPONSE AND SPECIES IDENTIFICATION

## 4.1 ADULT MOSQUITOS

### 4.1.1 Captured by Hand

4.1.1.1 Any adult mosquito captured by hand (not trapped as part of the routine mosquito surveillance) is to be handed to MPI initially.

4.1.1.2 MPI, on receipt of the adult mosquito, will

- put the specimen into a sample bottle,
- contact NPHS (Northern) within 1 hour with a Biosecurity Handover Certificate, and
- secure the interception site as per MPI protocols for insect capture.

4.1.1.3 NPHS (Northern) Duty HPO, on receipt of the notification from MPI, will

- respond as per NPHS (Northern) current Mosquito Protocol,
- collect the mosquito specimen,
- receive the Biosecurity Handover Certificate,
- takes digital photographs of the specimen,
- send photographs electronically to NZBEL for a preliminary identification, and
- notify NPHS and NZBEL.

### 4.1.2 Found in Surveillance Traps

4.1.2.1 Any adult mosquito captured in a routine mosquito surveillance trap, SMS will

- put the specimen into a sample bottle,
- take digital photographs of the specimen,
- send photographs electronically to NZBEL for an indicative identification, and
- notify NPHS, NPHS (Northern), NZBEL and AIAL via regular surveillance report emails.

### 4.1.3 Species Identification

4.1.3.1 NZBEL, on receipt of the digital photographs of the adult mosquito from either NPHS (Northern) or SMS, will

- provide an initial species identification, and
- notify NPHS, NPHS (Northern) and SMS.

4.1.3.2 Suspected local mosquito species will be sent to NZBEL via regular courier.

4.1.3.3 Suspected exotic origin species will be sent to NZBEL via urgent courier.

4.1.3.4 Dependent on identification by NZBEL, a response action code will be triggered, namely:

- EMERALD (preliminary ID of adult mosquito as a local from photo) – refer to Section 5
- SAPPHIRE (preliminary ID of adult mosquito as an exotic from photo) – refer to Section 6

## 4.2 MOSQUITO LARVAE

### 4.2.1 Found in Traps, Cesspits or Other Surveillance Sites

- 4.2.1.1 Mosquito larvae are primarily collected by SMS during its routine surveillance.
- 4.2.1.2 When mosquito larvae are found in a trap, cesspit or other surveillance sites, SMS will
- capture and store all samples in a solution of 80% ethanol or isopropyl alcohol and clearly marked with the trap number,
  - send the specimen to NZBEL via regular courier,
  - treat the breeding habitat with either S-methoprene or *Bacillus thuringiensis israelensis* (BTi) granules, and
  - notify NPHS (Northern), NZBEL and AIAL via regular surveillance report emails.
- 4.2.1.3 NPHS (Northern) may occasionally find mosquito larvae during their monthly site or mega survey, who will in response carry out the first 3 bullet point actions in Section 5.2.1.2, and notify the wider NPHS (Northern), NZBEL, SMS, and AIAL via a survey report.
- 4.2.1.4 When live mosquito pupae are found, the procedure to deal with these is to destroy them.

### 4.2.2 Species Identification

- 4.2.2.1 NZBEL, on receipt of the larvae specimen, will identify whether it is an exotic or local species.
- 4.2.2.2 If the larvae sample is identified by NZBEL to be of a local species, Code EMERALD applies and no further action is required at this stage – refer to Section 5.
- 4.2.2.3 If the larvae sample is identified by NZBEL to be of an exotic species, Code DIAMOND applies – refer to Section 7.

# SECTION 5 - CODE EMERALD PROCESS

## 5.1 DEFINITION

The Code EMERALD process applies when an adult mosquito or mosquito larvae is identified as local species by NZBEL.

## 5.2 NZBEL ACTIONS

Once species of the specimen is identified as per Section 5.1.3.1 and 5.2.2.1, provide the result to the NPHS (Northern) Duty HPO.

## 5.3 NPHS (NORTHERN) ACTIONS

5.3.1 Email all stakeholders to inform them that preliminary identification is of a common species and that no further action is required at this stage.

5.3.2 On occasion, further measures may be required e.g. where there is an arbovirus outbreak overseas that could be carried by mosquitos already in New Zealand e.g. the Japanese Encephalitis Virus outbreak in Australia which may potentially be vectored by *Culex Quinquefasciatus*.

## 5.4 SMS ACTIONS

Maintain business as usual surveillance of the Airport precinct unless otherwise instructed by NPHS (Northern) or NPHS based on substantiated risk assessments undertaken.

## 5.5 AIAL ACTIONS

No response expected unless specifically requested otherwise.

## 5.6 NPHS ACTIONS

No response expected unless specifically requested otherwise.

# SECTION 6 – CODE SAPPHIRE PROCESS

## 6.1 DEFINITION

The Code SAPPHIRE process applies when an adult mosquito is preliminarily identified as suspected exotic species by NZBEL.

## 6.2 NZBEL ACTIONS

Once the species of the specimen is identified as per Section 5.1.3, provide the result to the NPHS (Northern) and SMS.

## 6.3 2 TO 4 HOURS OF EXOTIC SPECIES CONFIRMED

### 6.3.1 NPHS (Northern) Actions

6.3.1.1 Upon receipt of the result from NZBEL, define scope of delimit survey including enhanced surveillance requirements and priorities.

6.3.1.2 If the on-duty HPO identifies the need for a multi-agency coordinated response as a result of the risk assessment and scope definition, step up as Lead Agency and call for a Code SAPPHIRE process activation meeting brief with AIAL, SMS, MPI, NZBEL and other relevant stakeholders to:

- announce the interception of an exotic adult mosquito,
- provide further details of the interception,
- share the scope of delimit survey,
- establish enhanced surveillance requirements and priorities,
- share details lead HPO on ground, and
- confirm point-of-contact representative of other relevant agencies.

A coordinated response may not be required if the on-duty HPO determines that the response is a straightforward one.

6.3.1.3 During daylight hours carry out delimit survey of all areas around the point of interception to a radius of 400 meters.

6.3.1.4 For traps in the ITB, confirm with SMS when the traps were last checked, whether or not they need to be rechecked as part of the delimit survey and whether SMS is able to attend at the time the delimit survey is conducted.

6.3.1.5 Prepare and send initial dot point information to NPHS, AIAL, MPI, NZBEL and other stakeholders to reinforce meeting key points that the delimit survey has commenced with sitrep to follow once complete.

6.3.1.6 If after hours, contact AIAL at the AIAL OCC to inform the interception of exotic mosquito and the commencement of delimit survey.

### **6.3.2 SMS Actions**

- 6.3.2.1 Participate in Code SAPPHIRE process activation meeting brief called for by NPHS (Northern).
- 6.3.2.2 Commence enhanced surveillance as per frequency stated in Section 1.2.1.6 in conjunction with NPHS (Northern) delimit survey.
- 6.3.2.3 Send all specimens collected to NZBEL via urgent courier.
- 6.3.2.4 Confirm with NPHS (Northern) when traps are last checked and whether they need to be rechecked as part of the delimit survey.
- 6.3.2.5 Confirm with NPHS (Northern) whether SMS is able to attend at the time the delimit survey is conducted.
- 6.3.2.6 Undertake any other appropriate actions as directed by NPHS and NPHS (Northern). Any issues identified should be raised with the relevant agency immediately.

### **6.3.3 AIAL Actions**

- 6.3.3.1 Participate in Code SAPPHIRE process activation meeting brief called for by NPHS (Northern).
- 6.3.3.2 Make Airport stakeholders, users and tenants aware of the exotic mosquito interception and raise biosecurity and housekeeping awareness, with focus placed on 400 meters radius from the point of interception.
- 6.3.3.3 Organise airside escort vehicle and resources if delimit survey is carried out in the airside areas of the Airport.
- 6.3.3.4 Organise site visits of construction sites on request of NPHS (Northern) and SMS.

### **6.3.4 NPHS Actions**

- 6.3.4.1 Send formal notification under the Biosecurity Act 1993 of unwanted organism.
- 6.3.4.2 Undertake initial risk assessment at a national level to determine sufficiency of delimit survey.
- 6.3.4.3 Provide advice and support to NPHS (Northern) as lead agency of the interception response where required.
- 6.3.4.4 Arrange for deployment of additional resources if and as required.

### **6.3.5 NZBEL Actions**

- 6.3.5.1 Provide advice in conjunction with NPHS on enhanced surveillance required, such as types and placement of traps, length and frequency of surveillance.
- 6.3.5.2 Prepare to provide a supported response to NPHS (Northern) with technical expertise.
- 6.3.5.3 Provide technical specialist advice on the mosquito species.

## **6.4 5 TO 24 HOURS OF EXOTIC SPECIES CONFIRMED**

### **6.4.1 NPHS (Northern) Actions**

- 6.4.1.1 Undertake the delimit survey which may be in conjunction with SMS enhanced surveillance.
- 6.4.1.2 Further surveillance traps are to be placed if the delimit survey indicates that further surveillance is required. These traps may be installed by NPHS (Northern) or SMS, depending on availability of traps and staff. Consider type of traps in consultation with NZBEL.
- 6.4.1.3 There are extra traps already in place ready to be turned on for an interception within the 400 metres mosquito control area.
- 6.4.1.4 Installer of additional traps must notify AIAL OCC if additional traps are installed, followed up with emailed photograph of the trap and its location.
- 6.4.1.5 Any traps installed in areas where the public have access need to be safe around children and cannot include traps powered by car batteries nor baited with CO<sub>2</sub>.
- 6.4.1.6 Share the completed first sitrep report, which contains the outcomes of the initial delimit survey and any controls implemented or actions required with AIAL, MPI, SMS, NPHS and NZBEL.
- 6.4.1.7 If multiple actions required from multiple agencies, call for a Code SAPPHIRE sitrep meeting to ensure actions are achievable and all parties fully understand their responsibilities.

### **6.4.2 SMS Actions**

- 6.4.2.1 Undertake enhanced surveillance and report back findings to NPHS (Northern) in preparation for the first sitrep report.
- 6.4.2.2 Maintain regular communications with NPHS (Northern) to ensure the enhanced surveillance continues to meet the requirements.

### **6.4.3 AIAL Actions**

- 6.4.3.1 When received the first sitrep report, share with airfield operations, affected tenants, construction companies and ground handlers operating within the 400 metres radius of the point of interception to ensure any required actions are undertaken and all potential mosquito breeding areas are identified and eliminated.
- 6.4.3.2 Provide subject matter expert support (i.e. plumbers, lift/escalator technicians etc) where required by NPHS (Northern) or SMS.
- 6.4.3.3 Continue to provide support as per Sections 7.3.3.3 and 7.3.3.4.

### **6.4.4 NPHS Actions**

- 6.4.4.1 Depending on ongoing surveillance results, consideration will be given to further actions e.g. deployment of extra traps, and whether the initial 400m delimiting survey was sufficient.

6.4.4.2 When escalation of the response is required, NPHS will coordinate stakeholder teleconferences at a national level in this situation to ensure actions are achievable and all parties fully understand their responsibilities.

6.4.4.3 Provide follow up emails and updates to support initial notification under the Biosecurity Act 1993 to MPI and MOH leadership team.

#### **6.4.5 NZBEL Actions**

6.4.5.1 Provide advice in conjunction with NPHS on enhanced surveillance required, such as types and placement of traps, length and frequency of surveillance.

6.4.5.2 Prepare to provide a supported response to NPHS (Northern) with technical expertise.

6.4.5.3 Provide technical specialist advice on the mosquito species.

### **6.5 3 TO 5 LIFE CYCLES**

#### **6.5.1 NPHS (Northern) Actions**

6.5.1.1 Continue delimit survey for 3 to 5 life cycles.

6.5.1.2 Provide updated sitrep reports three times (3x) weekly.

6.5.1.3 If required for multi-agency collaboration, call for regular Code SAPPHIRE sitrep meeting to ensure actions are achievable and all parties fully understand their responsibilities.

6.5.1.4 After no exotic samples confirmed for 3 to 5 life cycles, stand down the delimit survey when NPHS declares surveillance complete. Issue final report of response to relevant stakeholders including NPHS. Arrange debrief if required.

6.5.1.5 If further interceptions of exotic mosquito (adult/larvae) occur, it is likely to escalate to Code DIAMOND. Take instructions from NPHS at this stage and refer to Section 7.

#### **6.5.2 SMS Actions**

6.5.2.1 Continue enhanced surveillance for 3 to 5 life cycles and report back findings to NPHS (Northern) in preparation for the updated sitrep reports.

6.5.2.2 Send all specimens collected to NZBEL via urgent courier.

6.5.2.3 Continue to maintain regular communications with NPHS (Northern) to ensure the enhanced surveillance continues to meet the requirements.

6.5.2.4 After no exotic samples confirmed for 3 to 5 life cycles, stand down enhanced surveillance when NPHS declares surveillance complete.

6.5.2.5 If further interceptions of exotic mosquito (adult/larvae) occur, it is likely to escalate to Code DIAMOND. Take instructions from NPHS at this stage and refer to Section 7.

6.5.2.6 If enhanced surveillance needs to be extended based on NPHS instructions, SMS to consult AIAL from a contractual agreement point-of-view before proceeding.

### **6.5.3 AIAL Actions**

- 6.5.3.1 Continue to support delimit survey and enhanced surveillance by NPHS (Northern) and SMS respectively.
- 6.5.3.2 After no exotic samples confirmed for 3 to 5 life cycles, share final report issued by NPHS (Northern) with all relevant internal and external stakeholders (as per section 7.4.3.1) when received.
- 6.5.3.3 If further interceptions of exotic mosquito (adult/larvae) occur, continue to support NPHS (Northern) and SMS on the response.
- 6.5.3.4 If NPHS has instructed SMS to extend the enhanced surveillance due to an escalation of response, seek approval from the Head of Risk and Assurance for additional costs incurred before proceeding.

### **6.5.4 NPHS Actions**

- 6.5.4.1 Continue to monitor surveillance results and conduct appropriate risk assessments in conjunction with NZBEL.
- 6.5.4.2 After no exotic samples confirmed for 3 to 5 life cycles, declare surveillance complete and confirm stand down. Arrange debrief if required.
- 6.5.4.3 If further interceptions of exotic mosquito (adult/larvae) occur, extend Code SAPPHIRE process or escalate to Code DIAMOND where appropriate. Initiate stakeholder teleconference to consider additional actions.
- 6.5.4.4 If there is a requirement for SMS to extend the enhanced surveillance, AIAL must be notified from a contractual agreement point-of-view before proceeding.
- 6.5.4.5 Provide update notifications to relevant stakeholders at a national level.
- 6.5.4.6 Work alongside AIAL to coordinate response to any media interest at a national level.

### **6.5.5 NZBEL Actions**

- 6.5.5.1 Provide advice in conjunction with NPHS on enhanced surveillance required, such as types and placement of traps, length and frequency of surveillance.
- 6.5.5.2 May support and assist with surveillance activities as needed, will be instigated by NPHS where required.

# SECTION 7 – CODE DIAMOND PROCESS

## 7.1 DEFINITION

The Code DIAMOND process applies when mosquito larvae found in a trap, cesspit or other surveillance sites is identified as exotic species by NZBEL.

## 7.2 NZBEL ACTIONS

Once species of the specimen is identified as per Section 5.2.2, provide the result to the NPHS, NPHS (Northern) and SMS.

## 7.3 2 TO 4 HOURS OF EXOTIC SPECIES CONFIRMED

### 7.3.1 NPHS Actions

7.3.1.1 Code DIAMOND response will be nationally coordinated but locally delivered by NPHS (Northern).

7.3.1.2 Call for a Code DIAMOND process commencement brief meeting with NPHS (Northern), AIAL, SMS, NZBEL and other relevant stakeholders to:

- announce the interception of an exotic adult mosquito,
- provide further details of the interception,
- establish enhanced surveillance requirements and priorities,
- share details lead HPO on ground, and
- confirm point-of-contact representative of other relevant agencies.

7.3.1.2 Send formal notification under the Biosecurity Act 1993 of unwanted organism.

7.3.1.3 Provide follow up emails and updates to support initial notification under the Biosecurity Act 1993 to MPI and MOH leadership team.

7.3.1.4 Arrange for deployment of additional resources if and as required.

### 7.3.2 NPHS (Northern) Actions

7.3.2.1 Participate in Code DIAMOND process commence brief meeting called for by NPHS.

7.3.2.2 Responsible manager informed and confirm lead POC for response.

7.3.2.3 Define scope of delimit survey including enhanced surveillance requirements and priorities.

7.3.2.4 Coordinate local delivery, work with SMS to plan and confirm roles and resources for delimit survey and enhanced surveillance.

7.3.2.5 Depending on resourcing availability, deploy minimum of 2 teams of 3 persons to conduct delimit survey. If minimum resourcing requirement cannot be met, NPHS to be notified immediately for support.

- 7.3.2.6 During daylight hours carry out delimit survey of all areas around the point of interception to a radius of 400 meters.
- 7.3.2.7 Prepare and send initial dot point information to NPHS, AIAL, MPI, NZBEL and other stakeholders to reinforce meeting key points that the delimit survey has commenced with sitrep to follow once complete.
- 7.3.2.8 If after hours, contact AIAL at the AIAL OCC to inform the interception of exotic mosquito and the commencement of delimit survey.

### **7.3.3 SMS Actions**

- 7.3.3.1 Participate in Code DIAMOND process commence brief meeting called for by NPHS.
- 7.3.3.2 Commence enhanced surveillance as per frequency stated in Section 1.2.1.6 in conjunction with NPHS (Northern) delimit survey.
- 7.3.3.3 Send all specimens collected to NZBEL via urgent courier.
- 7.3.3.4 Undertake any other appropriate actions as directed by NPHS and NPHS (Northern) as discussed in the Code DIAMOND process meetings. Any issues identified should be raised with the relevant agency immediately.

### **7.3.4 AIAL Actions**

- 7.3.4.1 Participate in Code DIAMOND process commence brief meeting called for by NPHS.
- 7.3.4.2 Make Airport stakeholders, users and tenants aware of exotic mosquito interception and raise biosecurity and housekeeping awareness, with focus placed on 400 meters radius from the point of interception.
- 7.3.4.3 Organise airside escort vehicle and resources if delimit survey is carried out in the airside areas of the Airport.
- 7.3.4.4 Organise site visits of construction sites on request of NPHS (Northern) and SMS.
- 7.3.4.5 Undertake any other appropriate actions as directed by NPHS and NPHS (Northern) as discussed in the Code DIAMOND process meetings. Any issues identified should be raised with the relevant agency immediately.

### **7.3.5 NZBEL Actions**

- 7.3.5.1 Provide advice in conjunction with NPHS on enhanced surveillance required, such as types and placement of traps, length and frequency of surveillance.
- 7.3.5.2 Prepare to provide a supported response to NPHS (Northern) with technical expertise.
- 7.3.5.3 Provide technical specialist advice on the mosquito species.

## **7.4 5 TO 24 HOURS OF EXOTIC SPECIES CONFIRMED**

### **7.4.1 NPHS (Northern) Actions**

- 7.4.1.1 Undertake the delimit survey which may be in conjunction with SMS enhanced surveillance.

- 7.4.1.2 Further surveillance traps are to be placed if the delimit survey indicates that further surveillance is required. These traps may be installed by NPHS (Northern) or SMS, depending on availability of traps and staff. Consider type of traps in consultation with NZBEL.
- 7.4.1.3 There are extra traps already in place ready to be turned on for an interception within the 400 metres mosquito control area.
- 7.4.1.4 Installer of traps must notify AIAL OCC if additional traps are installed, followed up with emailed photograph of the trap and its location.
- 7.4.1.5 Any traps installed in areas where the public have access need to be safe around children and cannot include traps powered by car batteries nor baited with CO<sub>2</sub>.
- 7.4.1.6 Share the completed first sitrep report, which contains the outcomes of the initial delimit survey and any controls implemented or actions required with AIAL, MPI, SMS, NPHS and NZBEL.
- 7.4.1.7 If multiple actions required from multiple agencies, call for a Code DIAMOND sitrep meeting to ensure actions are achievable and all parties fully understand their responsibilities.

#### **7.4.2 SMS Actions**

- 7.4.2.1 Undertake enhanced surveillance and report back findings to NPHS (Northern) in preparation for the first sitrep report.
- 7.4.2.2 Maintain regular communications with NPHS (Northern) to ensure the enhanced surveillance continues to meet the requirements.

#### **7.4.3 AIAL Actions**

- 7.4.3.1 When received the first sitrep report, share with airfield operations, affected tenants, construction companies and ground handlers operating within the 400 metres radius of the point of interception to ensure any required actions are undertaken and all potential mosquito breeding areas are identified and eliminated.
- 7.4.3.2 Provide subject matter expert support (i.e. plumbers, lift/escalator technicians etc) where required by NPHS (Northern) or SMS.
- 7.4.3.3 Continue to provide support as per Sections 8.3.4.3 and 8.3.4.4.

#### **7.4.4 NPHS Actions**

- 7.4.4.1 Depending on ongoing surveillance results, consideration will be given to further actions e.g. deployment of extra traps, and whether the initial 400m delimiting survey was sufficient.
- 7.4.4.2 When escalation of the response is required, NPHS will coordinate stakeholder teleconferences at a national level in this situation to ensure actions are achievable and all parties fully understand their responsibilities.

7.4.4.3 Provide follow up emails and updates to support initial notification under the Biosecurity Act 1993 to MPI and MOH leadership team.

#### **7.4.5 NZBEL Actions**

7.4.5.1 Provide advice in conjunction with NPHS on enhanced surveillance required, such as types and placement of traps, length and frequency of surveillance.

7.4.5.2 Prepare to provide a supported response to NPHS (Northern) with technical expertise.

7.4.5.3 Provide technical specialist advice on the mosquito species.

### **7.5 3 TO 5 LIFE CYCLES**

#### **7.5.1 NPHS**

7.5.1.1 Establish regular Code DIAMOND response coordination meetings. Attendees are NPHS (CTO or CDTO), NPHS (Northern), NZBEL, SMS, AIAL.

7.5.1.2 Continually evaluate delimit survey and enhanced surveillance priorities and control measures based on environmental and situational risks at the time.

7.5.1.3 If further interceptions of exotic mosquito (adult/larvae) occur, extend Code DIAMOND process or escalate based on risk assessed at the time. Initiate stakeholder teleconference to consider additional actions.

7.5.1.4 After no exotic samples confirmed for 3 to 5 life cycles, declare surveillance complete and confirm stand down. Arrange debrief meeting if required.

7.5.1.5 If there is a requirement for SMS to extend the enhanced surveillance, AIAL must be notified from a contractual agreement point-of-view before proceeding.

7.5.1.6 Work alongside AIAL to coordinate response to any media interest at a national level.

#### **7.5.2 NPHS (Northern) Actions**

7.5.2.1 Continue delimit survey for 3 to 5 life cycles.

7.5.2.2 Provide updated sitrep reports three times (3x) weekly.

7.5.2.3 After no exotic samples confirmed for 3 to 5 life cycles, stand down the delimit survey when NPHS declares surveillance complete. Issue final report of response to relevant stakeholders including NPHS.

7.5.2.4 If further interceptions of exotic mosquito (adult/larvae) occur, it is likely to escalate further based on risk assessed at the time. Take instructions from NPHS at this stage.

#### **7.5.3 SMS Actions**

7.5.3.1 Continue enhanced surveillance for 3 to 5 life cycles and report back findings to NPHS (Northern) in preparation for the updated sitrep reports.

7.5.3.2 Send all specimens collected to NZBEL via urgent courier.

- 7.5.3.3 Continue to maintain regular communications with NPHS (Northern) to ensure the enhanced surveillance continues to meet the requirements.
- 7.5.3.4 After no exotic samples confirmed for 3 to 5 life cycles, stand down enhanced surveillance when NPHS declares surveillance complete.
- 7.5.3.5 If further interceptions of exotic mosquito (adult/larvae) occur, it is likely to escalate based on risk assessed at the time. Take instructions from NPHS at this stage.
- 7.5.3.6 If enhanced surveillance needs to be extended based on NPHS instructions, SMS to consult AIAL from a contractual agreement point-of-view before proceeding.

#### **7.5.4 AIAL Actions**

- 7.5.4.1 Continue to support delimit survey and enhanced surveillance by NPHS (Northern) and SMS respectively.
- 7.5.4.2 After no exotic samples confirmed for 3 to 5 life cycles, share final report issued by NPHS (Northern) with all relevant internal and external stakeholders (as per section 8.4.3.1) when received.
- 7.5.4.3 If further interceptions of exotic mosquito (adult/larvae) occur, continue to support NPHS (Northern) and SMS on the response.
- 7.5.4.4 If NPHS has instructed SMS to extend the enhanced surveillance due to an escalation of response, seek approval from the Head of Risk, Compliance and Assurance for additional costs incurred before proceeding.

#### **7.5.5 NZBEL Actions**

- 7.5.5.1 Provide advice in conjunction with NPHS on enhanced surveillance required, such as types and placement of traps, length and frequency of surveillance.
- 7.5.5.2 May support and assist with surveillance activities as needed, will be instigated by NPHS where required.