BORDER HEALTH MANUAL

APPENDICES D:

Pests and Vectors

Contents

Contents 2
Appendix D1: Checklist for HPOs for Suspected Mosquito Interception 3
Appendix D2: Initial Notification Report – Mosquito Interception Response 4
Appendix D3: Task Table for a Detection or Interception response to an Exotic Mosquito 7
Appendix D4: Biosecurity Handover Certificate 11
Appendix D5: Guide to the Detection of a Mosquito 15
Appendix D6: Activity Log Template 16
Appendix D7: How to take a mosquito photo 17
Appendix D8: Interception Equipment List 18

Appendix D1: Checklist for HPOs for Suspected Mosquito Interception

Checklist for HPOs in the event of a suspected mosquito interception

Detection (normally by MPI)

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Suspected Interception Response

- ❑ Notify NPHS Border Health team
  - **Office hours: notifyenvhealth@tewhatuora.govt.nz**
  - **Afterhours: 0800 GET MOH**
- ❑ Notify the on call NZB entomologist: **021 522 476**
- ❑ Ask and record information:
  - ❑ Dead or alive when found?
  - ❑ Other organisms seen alive?
  - ❑ Items fumigated/treated?
  - ❑ Where and when found?
  - ❑ Associated with goods from which country?
  - ❑ How long has container/goods been in NZ?
- ❑ Check for mosquitoes:
  - ❑ Take a picture and send with information to **taxonomy@nzbiosecure.net.nz**
  - ❑ Send a text that picture has been sent

Mosquito confirmed:

- ❑ Complete Handover Certificate MPI

Depending on
- Likely species
- Location
- Dead or alive
- History of area
- Treatment

Actions
- ❑ Sample send urgent vs. overnight courier
- ❑ Delimiting survey and/or enhanced surveillance vs. no action required

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- ❑ Send an email report to all people involved
- ❑ Send a SITREP if exotic

Appendix D2: Initial Notification Report – Mosquito Interception Response

INITIAL NOTIFICATION REPORT ON MOSQUITO INTERCEPTION RESPONSE

This report summarises NPHS initial response actions and control measures for a mosquito interception response. Submit following a confirmed exotic mosquito (Laboratory ID) interception ***within 24 hours of initial notification.***

Send to: *notifyenvhealth@tewhatuora.govt.nz*

Date/Time submitted:
Person Submitting Report:
Appointment: Health Protection Officer/Biosecurity Authorised Person
Organisation:
Contact Tel Number:

Findings *(complete sections that apply)* *Where information is not available or does not apply, note this in the relevant space.*			
	Item	**Information requested**	**Comments**
1	**Notification Details**	Date/time notified to local NPHS	
		Name and occupation of notifier	
		Company/organisation	
		Contact details	
2	**Details of Discovery**	Mosquito type (adult, larva, pupae)	
		Number: xx (dead) xx (alive)	
		Other notable characteristics	
3	**Circumstance of Discovery**	Location (POE, transitional facility, vessel, other)	
		When and how found	
		Other relevant information	
4	**Risk assessment**	Vessel/container arrival date into NZ	

		Last port/s of call	
		Next Port/s of call	
		Type of goods/cargo	
		Origin of goods/cargo	
		Owner and distribution of goods	
		Any treatment applied?	
		Vector management (SSC, IPM)	
		Current surveillance activity	
5	**Sample collection and despatch**	Date/time sample collected	
		Date/time sample despatched	
		Sample number	
6	**Laboratory initial identification**	Initial identification	
		Date/time received	
		Notable characteristics of species (e.g. natural pond dweller, flight range)	
7	**Delimit Survey**	Date/time survey conducted	
		Brief outline of your survey response. Include findings from the survey and a summary of the risk assessment. Attach map/sketch of interception site if possible and outline the survey area.	
8	**PHS Actions**	Enhanced surveillance/trapping (attach map or plan if available of trapping locations)	

		Recommendations given to vessel/site. Consider management (including treatment) of goods, craft, port, airport, wider area, surrounding area	
		Other actions by NPHS	
9	**MPI Actions**	Name of treatment agent applied and/or other MPI controls implemented	
10	**Notifications - where relevant (include date/time in details)**	☐ NPHS Border Health Team	Details:
		☐ Own PHS staff including Māori and Pacific Regional leads	Details:
		☐ MPI	Details:
		☐ Port/Airport Authority	Details:
		☐ Local Authority	Details:
		☐ Local Iwi/rūnanga	Details:
		☐ Other local offices of NPHS for follow-up	Details:
Additional Comments			
Appendices			

Appendix D3: Task Table for a Detection or Interception response to an Exotic Mosquito

The identification and location of exotic mosquitoes of public health significance should be reported to the CTO (Health), or the Deputy CTO (Health), or the National Border team via notifyenvhealth@tewhatuora.govt.nz within two hours of such report or identification being received.

Outside of routine surveillance, a notification will come to the local office of the NPHS via NZBiosecure, MPI, a transitional facility or possibly a member of the public.

PHASE 1	**Notification & Pre-site Visit Activity**
PHS is notified of a mosquito detection from one of the following: • POE or TF • MPI • Member of the public • NZBiosecure from routine surveillance	• On-call HPO takes facts of finding including notifier's details, location, risk goods, flight number or vessel name, life stage detected, dead/alive, sample status i.e. as much intel as possible. • Start to gather information using the Initial Notification Report – Mosquito Interception Response (**Appendix D2**) • Request notifier takes a photo of mosquito if possible (see mosquito photo see **Appendix D7**) • On-call HPO commences an activity log (**Appendix D6**)
Contacts and informs other key parties	• HPO to notify the on-call NZBiosecure (NZB) entomologist mob phone **021 522 476.** If HPO has mosquito photo from notifier, send to NZBiosecure at taxonomy@nzbiosecure.net.nz ○ The entomologist will provide advice on initial actions. • HPO to notify CTO/DCTO National Border team within two hours via 0800 GET MOH option 2 • Notify on-call MOoH • Initiate brief follow-up email with initial actions discussed during phone call with NZB and National Border team. HPO to send this email to NZB, National Border team, on-call MOoH and cc in regional leadership team SPOC for information/awareness

HPO prepares to visit index site	• Ensure they have the required items including:
	  ○ PPE appropriate for site
	  ○ PHS standard operating procedures
	  ○ Sample collection kit
	  ○ Smart phone with macro lens and GPS app
	  ○ Knock down insecticide spray canister
	• If advised by the Entomologist, bring equipment to set up traps at the site (interception equipment list in **Appendix D8**).

Deployment	HPO travels to index site asap
PHASE 2	**HPO Deployed to Index Site**
Enter site. Contact the notifier or their representative. Make contact with MPI if applicable.	• Report to Owner/Operator • Gather intel from the site operator or the MPI officer • If applicable, complete Handover Certificate with MPI (use Handover certificate – see **Appendix D4**
Secure sample and send data to NZ BioSecure Lab	• Secure & Check Sample • Confirm information you gathered from notifier and note any additional information e.g. associated with goods from which country?

	• Send updated information and picture of mosquito (if not already sent) to taxonomy@nzbiosecure.net.nz • **Send physical sample to NZB lab –** each PHS should have access to an urgent/overnight courier and documented instructions on how to use this service • Record all actions in activity log
NZBiosecure lab confirms initial screen	**Either** • Probable exotic/unwanted species ○ NZB will likely provide some initial advice on actions OR
	• Probable established species (confirmation pending) ○ NZB will likely provide some initial advice on actions OR

	• Exotic organism but not a mosquito and not of human health significance
	  ○ check if this discovery will be of concern to MPI by liaising with local MPI officers.
	  ○ **Stand down interception response- conclude initial notification report, update National Border team, MOoH, and regional leadership team.**

Notify key parties immediately on NZBiosecure initial lab screen result	• HPO to contact the CTO/DCTO and notify them of initial screen result. Discuss initial findings and begin developing operational response plan if required. • Provide email update of initial result and discussions with NZB and National Border team to on-call MOoH, regional leadership team, National Border team, and NZB.
Develop the operational response plan.	• Contact/consult CTO/DCTO if necessary for advice on operational response plan • Consider treatment of risk goods (MPI can assist with this). • Follow regional escalation process- consider if additional resources are required, (staff, material or equipment), consider holding messages for communications to impacted community, and possible activation of emergency response plan, including setting up an IMT. • Consider risks/benefits of delimiting survey and/or enhanced traps vs no action required • Discuss decision with CTO/DCTO, NZB and document in preferred local recording system i.e. NPHS village. • Update activity log • If a **delimiting survey** is required, **plan survey using guidance on NZB's website here.** Note: seek advice from NZB and CTO/DCTO on size of delimiting survey depending on species and life cycle of the mosquito. • Consider use of GIS tools appropriate for mapping zones and treatment areas • Once operational response plan has been finalised, HPO to send plan to CTO/DCTO, NZB, and cc in on-call MOoH and regional leadership SPOC. • Brief site operator/occupier on situation and response plan • Update MPI on operational response plan if applicable

Implement operational response plan	• If required, arrange fumigation of risk goods or risk conveyance with MPI • Execute delimit survey • Apply containment treatment (S-methoprene or BTI) to mosquito breeding habitat as advised by NZB.
Concurrent activity	• Update CTO/DCTO, utilising information gathered in the Initial Notification Form, MOoH, regional leadership via SPOC email on response activity as appropriate. • Update activity log

An Exotic ID confirmation has been made by NZBiosecure lab. Continue implementing operational response plan	• Set up IMT as per emergency response plan.
	• Set up Border Response SITREP (**Appendix A7**)
	  ○ Determine frequency of reporting of SITREP (generally one every 24 hours).
	  ○ Determine recipients of SITREP- must include CTO/DCTO, NZB, local/regional IMT as appropriate.
	  ○ Define sign off process of SITREP and consider if info is appropriate to be shared to external agencies e.g. airport company
	• Delimit survey to be reviewed in light of result, and amended/completed as required
	• Brief site operator/occupier on measures taken and follow-up action e.g enhanced surveillance
	• Issue (if necessary) directives for cleansing and disinsection
	• If required, deploy enhanced surveillance system at interception site (Adult & Larval traps)
	• Treatment of habitat (S-methoprene or Bti). Ensure compliance with S-methoprene permission.
	• Arrangement for fumigation of risk goods with MPI (if not already completed)
	• HPO to update CTO/DCTO on activities via Border Response SITREP and cc in MOoH, regional leadership team, external agencies as appropriate.
	• Send completed Initial Notification form to CTO/DCTO within 24 hours of confirmation of exotic species

PHASE 3	**Enhanced surveillance, post deployment administration**
Actions post implementation of initial field operations	• Brief MOoH lead, regional leadership team, local IMT • Check equipment and material, and service, replenish and replace as necessary • Conduct planning to sustain the enhanced surveillance programme (if an exotic mosquito was detected)
Post Incident Enhanced Surveillance (Interception Event only)	• Conduct routine checks of the enhanced surveillance traps, collect any samples and dispatch them to NZB for ID • Maintain surveillance for three 'life cycles' of the species (21 – 28 Days depending on length of lifecycle) • Maintain ongoing Border Response SITREPS to National Border team, regional leadership team, local IMT, MOoH lead, and external agencies as appropriate of activity at interception site including nil returns • Continue updating NZB online database with sampling results as necessary • Continue updating activity log

PHASE 4	Recovery
Recovery	• Assemble data and write post event report. Depending on the length and nature of the interception response this could either be the completed initial notification report, a final sitrep, or a more detailed formal report.) • Distribute post event report to National Border team, NZB, local IMT, MOoH lead, regional leadership team, and external agencies as appropriate. • Host debrief internally and gather lessons learnt • Host debrief with external agencies involved in response and gather lessons learnt • Consider communications back to impacted community to close response and any final messages. If these are Māori and Pacific communities, the communications will be tailored to these specific communities. • Debrief to site operator

Appendix D4: Biosecurity Handover Certificate

Ministry for Primary Industries
Manatū Ahu Matua



Health New Zealand
Te Whatu Ora

BIOSECURITY HANDOVER CERTIFICATE

Event Type			
Date	/ /	Time	
Location of Intercept			
After hours contact details at location of intercept (Transitional Facility, Port Of First Arrival, etc)			
Organism is assumed to be			
MPI Office		NPHS Office	

MPI POC (Point Of Contact) responsible for handover	NPHS POC responsible for takeover

Contact Tel:		Contact Tel:	
Time interception notified to MPI		Time interception notified to NPHS	

Outgoing Agency Release of Responsibility

I (print name) of the MPI office certify that the interception site is clear for the PHS to take over responsibility for the site. In doing so it is acknowledged that:

• all relevant data acquired during the initial phase of the interception has been made available to the NPHS;
• all information regarding treatment activities initiated and completed by MPI staff has been made available to the NPHS;
• all samples and specimens of suspected exotic organisms have been transferred to the NPHS for formal identification.

Signed Date/Time / /

Incoming Agency Acknowledgement of Assuming Responsibility

I (print name) of the NPHS office certify that the interception site is ready for handover of responsibilities from MPI to NPHS. In doing so I acknowledge that:

• the National Public Health Service Biosecurity response team has sufficient assets in place to manage the interception effectively;
• the MPI POC has provided a comprehensive briefing of all the relevant activities of the interception conducted by MPI as at this point in time.

Signed Date/Time / /

Interception/Incursion Event

Biosecurity Handover Certificate - NPHS Notes

Introduction

The purpose of the Handover Certificate is to record the relinquishing of the operational responsibility for the conduct of an interception of an exotic organism of public health significance (such as mosquitoes) from MPI to the relevant local office of the National Public Health Service (NPHS) for the port or airport concerned.

Note: It is **not** relinquishing full biosecurity authority for risk goods and it is acknowledged that not all MPI functions may have been completed at time of handover of responsibility for the organism.

General

The handover of operational responsibility should occur as part of the following sequence:

I. MPI detect or are advised of the presence of an unwanted organism of public health significance within the port/airport or transitional facility.

MPI immediately advise the relevant local office of the NPHS for the port or airport concerned of the interception and as part of concurrent activity carry out whatever actions are necessary to contain and control the organism. This activity may include:

a. Securing of samples/specimens so they can be passed to the NPHS
b. Immediate treatment of the risk goods that might still be harbouring the organism (including authorising fumigation of containers)
c. Identification of (and notification to if necessary) stakeholders such as TFs, freight forwarders, importers, port/airport companies, shipping agencies, etc.
d. Containment of risk cargo – e.g., movement restrictions on risk goods
e. Capture of all relevant information so that it can be recorded and passed on to the local office of the NPHS Response Team Leader

II. If at any time treatment of the goods/container is undertaken MPI will notify the local office of the national public health service of the date, type of treatment and chemicals used.

III. The local office of the NPHS will mount an immediate response that will include:
   a. Collection of and dispatch of any specimens for formal identification
      Note: If identification shows the interception is not a mosquito then the lab will inform MPI as the interception may still have biosecurity implications
   b. Delimitation of the incident site in accordance with 'best practice' protocols
   c. Initiation of continuation of treatment procedures that may be deemed necessary to ensure control, containment and eradication
   d. Notification of the incident to:
      - Chief Technical Officer or Deputy Chief Technical Officer
      - NZ BioSecure Lab
      - Stakeholders – Port Company, TAs, shipping agents, freight forwarders, etc.

IV. Once the NPHS has deployed the necessary resources and has its assets in place and is prepared to carry out the necessary procedures efficiently and in a timely manner the responsibility for the interception will pass from MPI to the local office of the NPHS.

Handover

At the point in time when the NPHS controller has assets in place then the handover of responsibility will occur. The MPI Inspector in charge of the site will complete two copies of the Handover Certificate, sign them off and give them to the NPHS Controller for countersigning. Each agency will retain one copy of the certificate. Once the certificate is signed off then responsibility for the interception is formally transferred to the NPHS.

Where the interception occurs at a transitional facility (TF) in the Auckland Region the physical handover of the form and the specimen may be conducted through a third party which is to be the TF Operator only. It is the expectation that the handover for other offices will occur in person from MPI to the NPHS but if this cannot occur for any reason, MPI will need to entrust that responsibility with a responsible person such as the TF operator.

If the estimated time of arrival of the HPO is greater than 1 hour then handover may be conducted via the TF Operator. If the HPO expects to arrive within the hour then the MPI Inspector will wait and make the handover.

If third party facilitation is agreed the contact details of the TF operator must be provided to the NPHS.

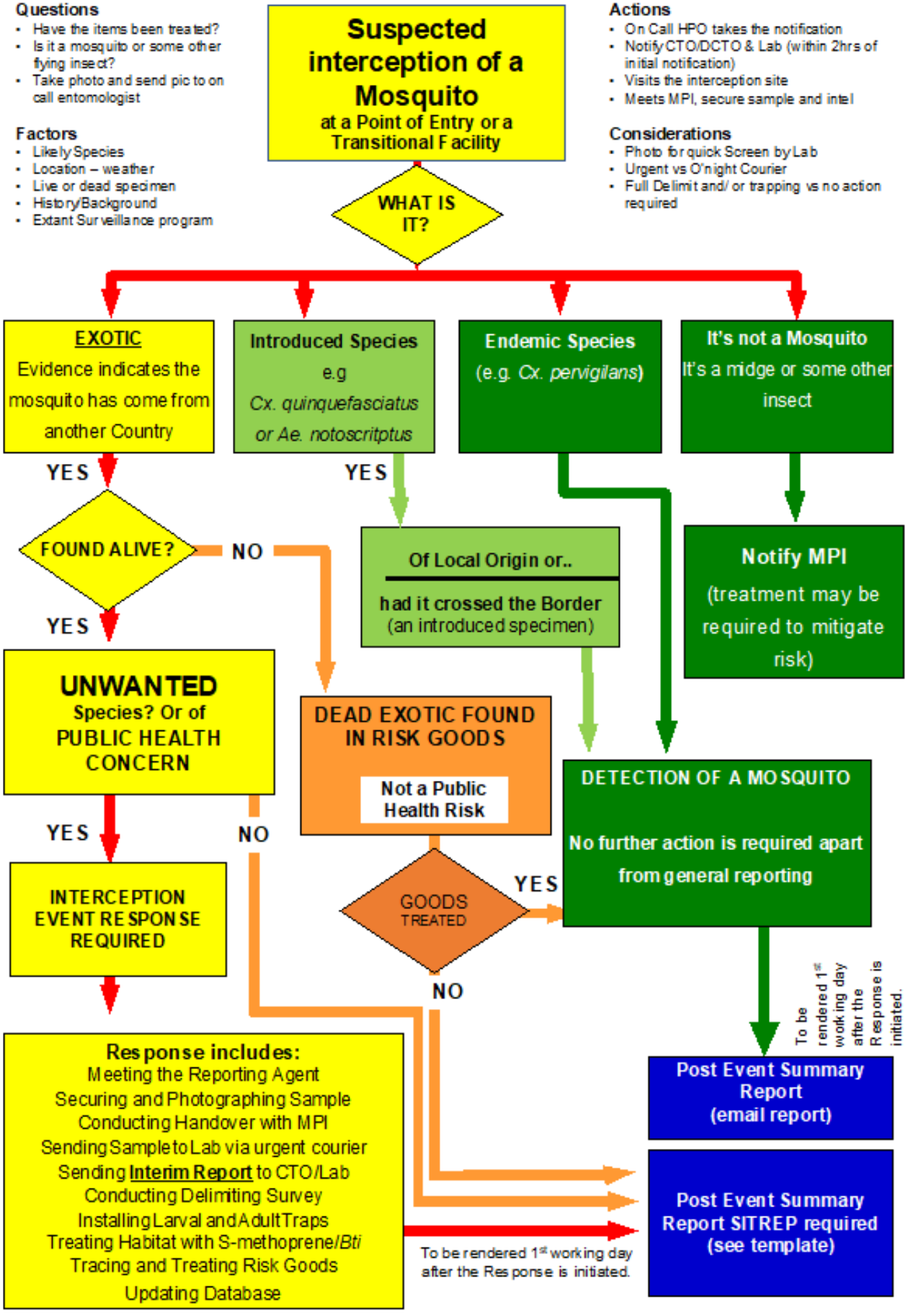
Transition Phase

There will be a transition phase when it is anticipated that MPI and NPHS staff will be working side by side until MPI elements can make a “clean break” from the incident site. This transition phase needs to be managed with care by the parties involved.

It is extremely important that the disengaging agency does not leave the site prematurely without ensuring that the processes described above are completed.

Note: There must be designated Points of Contact (POC) for both agencies who have executive authority to sign over the transfer of responsibility.

Appendix D5: Guide to the Detection of a Mosquito



Appendix D6: Activity Log Template

	Date/time	From	To	Activity	Comment/description
		Name	***Name(s)***	***E.g., email, phone call, letter***	***Subject matter, action and any further action required***
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Appendix D7: How to take a mosquito photo

If the insect is **alive**, try taking the first picture with the suspected mosquito in the sample tube:

Kill the mosquito or slow it down to take some pictures

Place the sample tube containing the mosquito in a **freezer**

Keep it in the freezer for 15 -20 minutes

Or keep it in the fridge for 30 -120 minutes

Be aware the mosquito may not be dead and will start moving after a few minutes

If the insect is **dead**:

Place the mosquito on white paper

If available, choose natural light (that is your best option)

Or find the best illuminated place indoors- enhance the artificial light by projecting an additional light against white paper

Taking the photo:

- Clip the macro lens on your phone, be sure to centre it carefully.

- Place your phone 5cm from the sample, and slowly lower it down until the image is in focus. Do not zoom! You can zoom later once you have taken the photo.

- Keep the phone steady while pressing the capture button- it is easier to use the self timer option for this to avoid movement. 3 seconds should suffice.



Take a series of pictures clearly showing the features below:

Black and white mosquitoes:

- Presence/absence of a white band on the proboscis

- Presence/absence of a white line on the femur

- Presence/absence of bands on the legs

Brown/yellowish mosquitoes:

- Presence/absence of a band on the proboscis

- Presence/absence of bands on the legs

- Presence/absence of a pattern on the wings

- End of abdomen shape

- Shape of marks on both sides of the abdomen

Appendix D8: Interception Equipment List

Assumptions:
The mosquito species and lifecycle stage will be notified at the beginning of the response. This will determine the habitat, control methods and trap types required for the response.

Each generic response bag is made up of:

- BTi dunks and BTi small pellets
- Pipette
- Ethanol
- Sampling pottles
- Sampling labels
- Pencils & pens
- Clinell wipes, gloves, ear buds, tissues
- Dipper
- Turkey baster
- Small white tray
- Magnifying glass or macro clip-on wide-angle lens
- Torch
- Notebook – key contacts to be added before deployment
- Clipboard and sampling forms as a backup to electronic failure

Accompanying each bag an officer will need to have or acquire:

- Warrant and powers
- Mobile phone
- KOBO app or equivalent for recording samples and their location
- Sun screen protection within expiry date
- Hand sanitizer within expiry date
- Drinking water / snacks
- Hi Vis HPO/Public Health labelled vest or jacket

Larger items to be available depending on Mosquito identification:

- Sump sucker
- Sump key
- Cable ties for marking sampled sumps
- Gas cylinder, regulator and tie downs
- Spanner for gas cylinder
- Batteries
- Gas cylinder and battery trolleys
- Gat Traps
- BG traps
- Tyre Traps
- Adult light/CO2 traps
- Appropriate signage for each trap
- S-methoprene and permission form
- Rabbit pellets
- Water bottles (to fill up traps)
- Octenol
- Mosquito trap signs (signs that contain S-methoprene warning symbol and signs that do not)
- Site specific safety equipment e.g. step ladder for loading gas cylinders