

ESTABLISHMENT OF GUAM ENVIRONMENTAL PUBLIC HEALTH LABORATORY TO ENHANCE FOOD SAFETY AND MOSQUITO CONTROL IN GUAM AND REGION

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SEPTEMBER 5, 2018
PIHOA 64TH EXECUTIVE BOARD MEETING
ALA MOANA HOTEL
HONOLULU, HAWAII

BACKGROUND: FOOD AND MOSQUITO PROGRAMS

- ▶ Guam Environmental Public Health Laboratory (GEPHL)
 - ▶ Vector-borne Disease Lab and Food Screening Lab
 - ▶ Occupied 2017; still building the foundation of the two labs
 - ▶ Assistance from CDC, PIHOA, USFDA
- ▶ GEPHL revived mosquito program and enhanced food safety program
 - ▶ Mosquito program previously inactive; Zika timing
 - ▶ No testing of food on Guam

GUAM'S STRATEGY

► Mosquito Control

- Conduct surveillance and control to prevent introduction of MBD
- Trap, identify and record; test for pathogens and insecticide resistance
- Expand services to region as reference lab

► Food Safety

- Inspect food facilities to enforce Guam Food Code to prevent Fbi
- Test food, water, and environmental samples for surveillance & outbreaks
- Expand services to region as reference lab

MOSQUITO CONTROL:

Guam Vector Management Strategic Plan 2017-2020

- ▶ Plan's strategic operational goals
 - ▶ Keep Guam free of *Ae. aegypti*
 - ▶ Prevent and control outbreaks
 - ▶ Maintain effective year-round surveillance
- ▶ Method
 - ▶ Surveillance: Collect adult & larval mosquitoes
 - ▶ Laboratory: Rear, sort, identify, and test mosquitoes
 - ▶ Control: Source reduction and larval control
 - ▶ Outreach and education



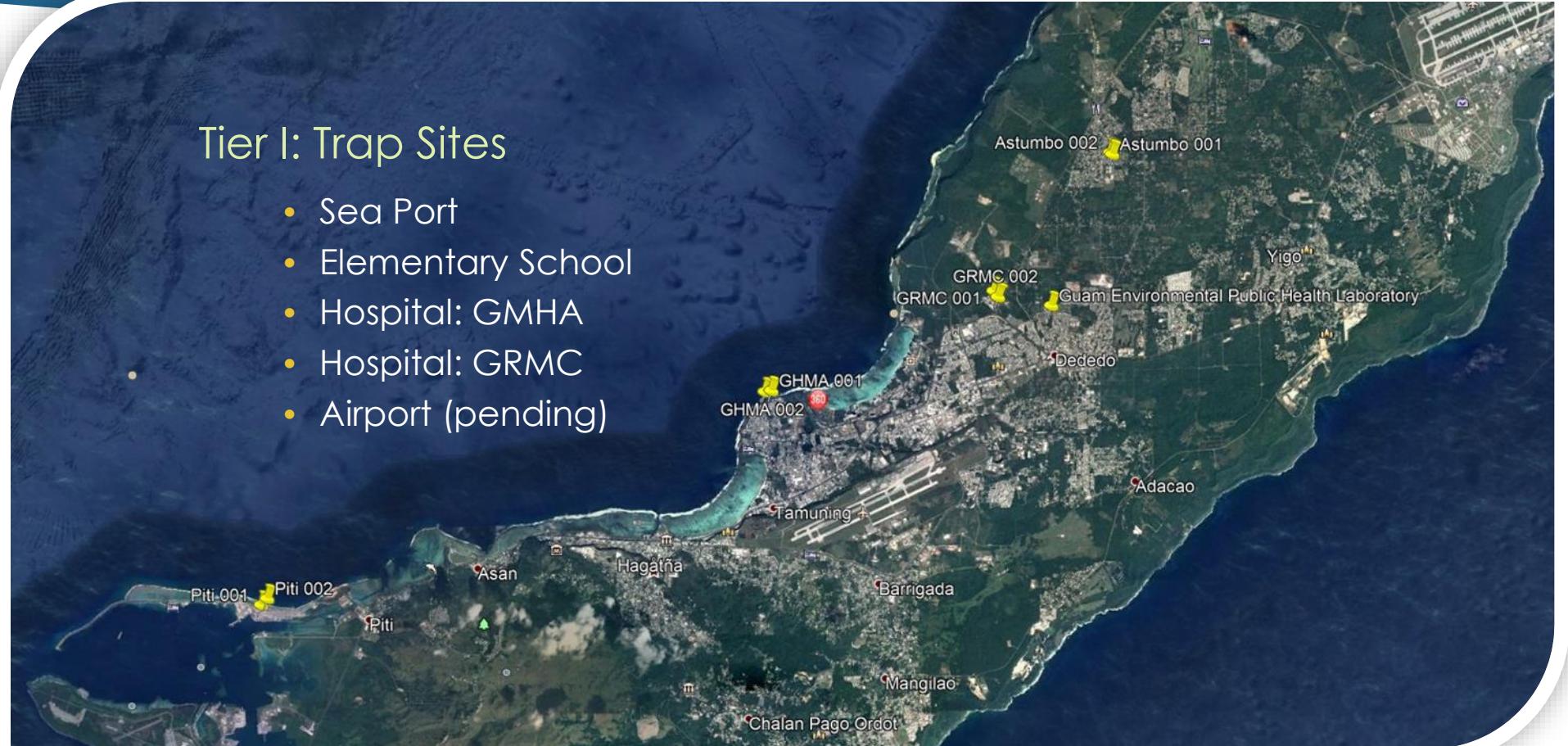
VECTOR-BORNE DISEASE LABORATORY

○ Surveillance

Tier I (Implemented)
Tier II (Pending)
Tier III (Pending)

Tier I: Trap Sites

- Sea Port
- Elementary School
- Hospital: GMHA
- Hospital: GRMC
- Airport (pending)





VECTOR-BORNE DISEASE LABORATORY

○Surveillance



Adult Trapping



Larval/Pupal Sampling



Ovitrapping



VECTOR-BORNE DISEASE LABORATORY

Surveillance

MOSQUINET ONLINE V1.0.2

Surveillance Resistance

+ Add Record Show 10 rows Search:

| Del | CountyName | TrapType | AttractantsUsed | TrapID | Latitude | Longitude | Address | Total |
|-----|------------|----------|-----------------|----------------------------|-----------|------------|-----------------------------------|-------|
| | Guam | BGS Trap | Lure | GU12-18.0209-1030-JG-A-001 | 13.461615 | 144.666066 | Port Authority of Guam, Site 1 | Piti |
| | Guam | BGS Trap | Lure | GU12-18.0209-1033-JG-A-002 | 13.462063 | 144.666615 | Port Authority of Guam, Site 2 | Piti |
| | Guam | BGS Trap | Lure | GU12-18.0209-1033-JG-A-002 | 13.462063 | 144.666615 | Port Authority of Guam, Site 2 | Piti |
| | Guam | BGS Trap | Lure | GU12-18.0214-0956-CT-A-001 | 13.554288 | 144.84755 | Astumbo Elementary School, Site 1 | De |
| | Guam | BGS Trap | Lure | GU12-18.0214-0956-CT-A-001 | 13.554288 | 144.84755 | Astumbo Elementary School, Site 1 | De |
| | Guam | BGS Trap | Lure | GU12-18.0214-0959-CT-A-002 | 13.554268 | 144.847007 | Astumbo Elementary School, Site 2 | De |
| | Guam | BGS Trap | Lure | GU12-18.0214-0959-CT-A-002 | 13.554268 | 144.847007 | Astumbo Elementary School, Site 2 | De |
| | Guam | BGS Trap | Lure | GU12-18.0214-1105-JG-A-001 | 13.462344 | 144.665926 | Port Authority of Guam, Site 1 | Piti |
| | Guam | BGS Trap | Lure | GU12-18.0214-1105-JG-A-001 | 13.462344 | 144.665926 | Port Authority of Guam, Site 1 | Piti |
| | Guam | BGS Trap | Lure | GU12-18.0214-1107-JG-A-002 | 13.462068 | 144.665934 | Port Authority of Guam, Site 2 | Piti |

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Showing 711 to 720 of 737 entries



Sites Arthropod Sentinel Carcass Application Resistance Tools Settings Help Logout

New Site Manage Sites Site Groups

Manage Sites

| Code | Name | Region | City | Postal Code | # of Revisions | Latitude | Longitude | Actions |
|--------|--------------------------------|--------|----------|-------------|----------------|-----------|------------|------------------------------|
| 000000 | Guam Department of Public H... | Guam | Mangilao | 96913 | 1 | 13.439528 | 144.795685 | edit |
| 000001 | Port Authority of Guam (PAG) | Guam | Piti | 96915 | 1 | 13.461530 | 144.670263 | edit, delete |
| 000002 | A.B. Won Pat International ... | Guam | Tamuning | 96913 | 1 | 13.485414 | 144.800765 | edit, delete |
| 000003 | Astumbo Elementary School | Guam | Dededo | 96929 | 1 | 13.553597 | 144.847860 | edit, delete |
| 000004 | Guam Memorial Hospital | Guam | Tamuning | 96913 | 1 | 13.504801 | 144.775600 | edit, delete |
| 000005 | Guam Regional Medical City ... | Guam | Dededo | 96912 | 1 | 13.525991 | 144.822472 | edit, delete |
| 000010 | ABWPIA 001 | Guam | Tamuning | 96913 | 1 | 13.492345 | 144.804926 | edit, delete |
| 000012 | PAG 001 | Guam | Piti | 96915 | 1 | 13.461403 | 144.667162 | edit, delete |

Code Name Region City Postal Code # of Revisions Latitude Longitude Actions

1 / 25

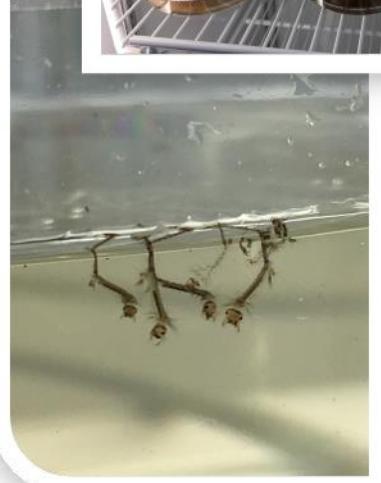
Search Clear

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VECTOR-BORNE DISEASE LABORATORY

◦ Laboratory



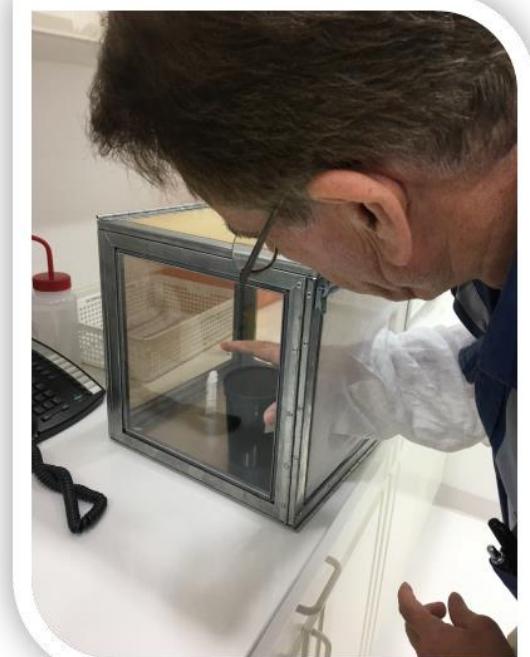
Rearing



Sorting



Identification



Colony
Maintenance



VECTOR-BORNE DISEASE LABORATORY

• Laboratory



Archiving



Insecticide
Resistance





VECTOR-BORNE DISEASE LABORATORY

◦ Laboratory

Pathogen Detection



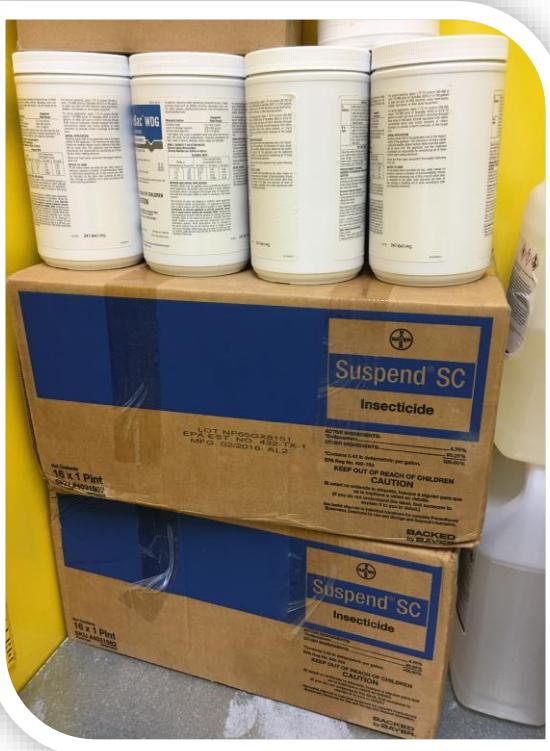
Source: Responsebio.com





VECTOR-BORNE DISEASE LABORATORY

● Vector Control



Mosquito Bits®, Vectobac®, & Suspend SC



450 STIHL Back Pack Sprayer (Mist-blower)

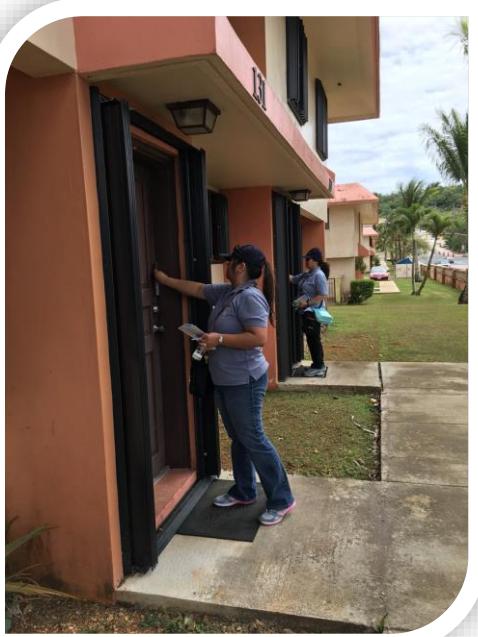


ECHO MS-402 Back Pack Sprayer (Piston-pump)



VECTOR-BORNE DISEASE LABORATORY

◦ Response



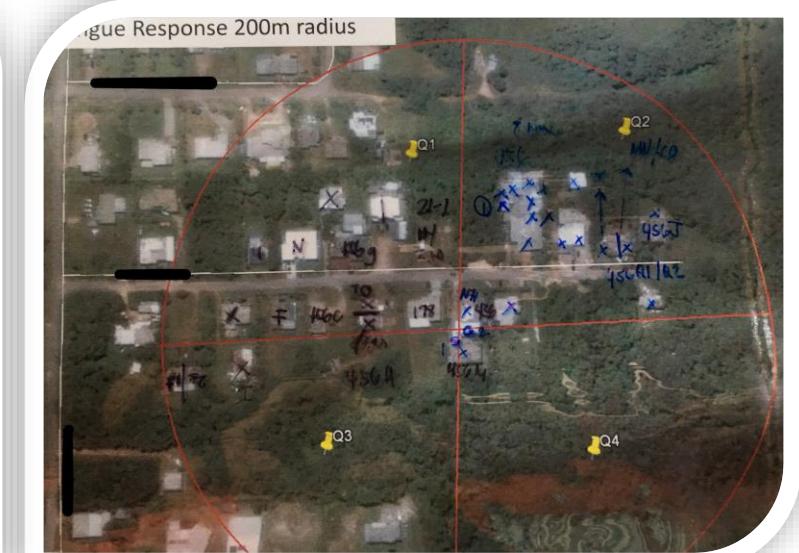
Education and
Notification



Enhance vector
control



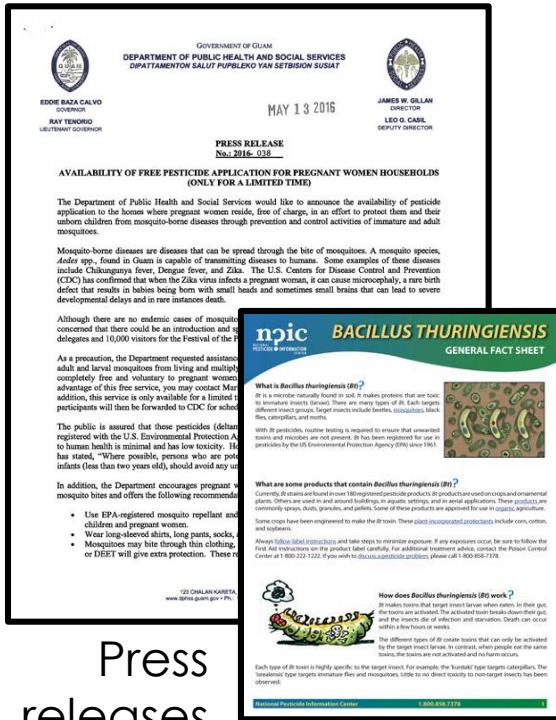
Enhance vector surveillance



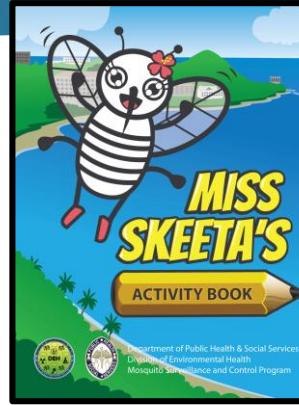


VECTOR-BORNE DISEASE LABORATORY

● Education Campaign



Media



Poster,
brochures,
& books





VECTOR-BORNE DISEASE LABORATORY

○ Education Campaign

Fairs and outreach activities





VECTOR-BORNE DISEASE LABORATORY

● Certifications/Training

- CORE Certification, Guam
- CAT-7a Certification for Applicator of Restricted Pesticides, Guam
- FMCA Dodd Short Courses, Florida
- U.S. Navy's Pesticide Applicator 2017 Training Course, Fiji
- World Health Organization's Integrated Vector Management Workshop for Pacific Island Countries, Training of the Trainers, Fiji
- U.S. CDC Medical Entomology Course, Guam
- NSW Health Pathology: Mosquito Surveillance and Control Professional Development and Training, Australia
- **MOU with Pacific Community (SPC)**
 - **SPC: Entomology training to PICTs**
 - **DEH: Venue for entomology training**





VECTOR-BORNE DISEASE LABORATORY

PENDING

- Increase Surveillance
 - Implement Tier 2 and Tier 3
- Increase Laboratory Capacity
 - Testing (antigen detection, PCR, and insecticide resistance)
 - Recruit additional staff
- Increase Vector Control capability
 - Obtain equipment (ex: trucks and truck mounted sprayers)
- Develop and Sustain Mosquito Advisory Council
- Implement “Pacific Island Vector Management Improvement Strategy”
- Serve as a Reference Laboratory for the Pacific Region

FOOD SCREENING LABORATORY

- Respond to Fbi outbreaks and sample food imports
- Food lab delayed due to facility challenges
- Collaborating with USFDA-SF District and Oregon Center of Excellence (capacity building)
- Equipment purchased; microbiology training received
- Seek to become a certified lab
- Serve as reference lab for region

Equipment



Pass-thru autoclave



Biosafety cabinet



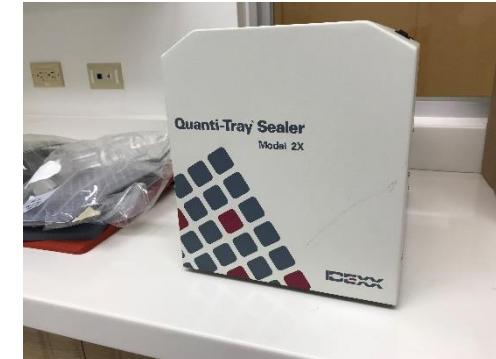
VIDAS



Incubator

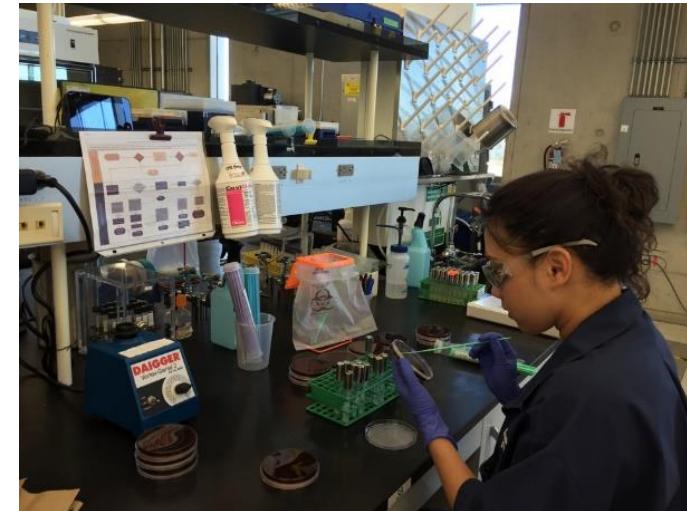
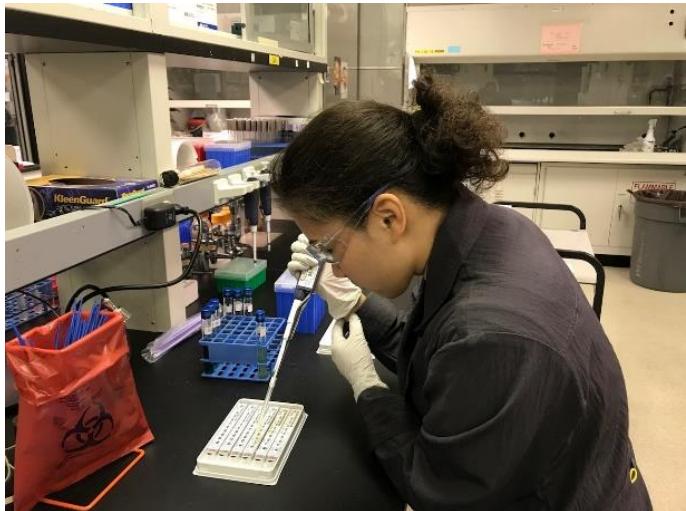


Ultra-low freezer



IDEXX

Microbiology Training



Seeking the Board's (continued) support...

- ▶ Environmental health in the region (via NPEHA)
- ▶ Vector-borne Disease Laboratory
- ▶ Proposed regional vector plan

THANK YOU !

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Department of Public Health and Social Services**

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