Vector Control Collaborative

By: Terri Auger, Environmental Health Manager
Abilene Overview

- Population - 120,000
- 71,680 ac. land + 3456 ac. Water
- Rolling plains ecosystem
- 1 Main Winding Creek
- Streets were Originally Built to Use as Drainage

https://christianchronicle.org/from-burundi-and-bhutan-to-texas/
Staff of 4-5

Daycare Inspections
Food Establishments Inspections
Plan Reviews
Spring-Summer: Farmer’s Markets, Ballfield Concessions, Snow Cone Stands, Food Trucks, Temp. Events
OSSF
Commercial Swimming Pools Inspections & Residential Pool Complaints
Spring/Summer Sewage Season
Pre VCC Knowledge

- Spring 2018, Acquired Vector Control with No Personnel & 1 TDA Pesticide Study Guide

- TDA Pesticide Applicator License Summer 2018

- Word of Mouth Gravid Water Recipe
- Cell Phone Video of Gravid Trap Set-Up
- YouTube Video of BG Sentinel Trap Set-Up
PRE VCC PROCEDURES

○ No SOP’s
  Spring 2019 Learned Trap
  Set-Up was Wrong

○ Minimal Data Collection
  DSHS Folder

○ Trap Locations
  Citizen Complaint
  Park w/ Pond
  Maintenance Yard
  Animal Control
Vector Control - ULV Guardian 95 Sprayers

2015 Animal Services
2017 Emergency Preparedness
2018 Environmental Health
Calibrated 2018 & 2019 Spring
CoCo Bear Oil
Altosid Briquettes
Altosid Single Brood Granule
BTI Dunks
Natular Tablets - Spinosyn
Permethrin
Chlorpyrifos
Pre-VCC Surveillance Inventory

3 Gravid Traps
3 BG Sentinel Traps
Parts to CDC Light Traps
12 CDC Gravid Traps
2 Reiter Cummins Gravid
2 BG Sentinel2 Traps
Chargers
1 Maruyama
5 ½ Face Respirators
Mentor Training

- SOP’s & Phased Response Created
- Media Navigation
- Data Collection Expanded/ Work with Epidemiology & Emergency Prep
- Trap Setup- Key Designated Areas
SECTION 1.0 GENERAL INFORMATION

Sec. 1.1 Purpose of Standard Operation Procedures
To ensure the operations of Abilene - Taylor County Public Health District’s Vector Control Program is conducted properly, effectively and safely by its employees, interns, and volunteers.

This includes:
- Section 2: Enumerating: Handling Enumerating and Preparation of Mosquito Samples for RT-PCR
- Section 3: Brewing Gravid Water
- Section 4: Deploying Mosquito Surveillance: Gravid and BG Sentinel Traps

Under the direction and oversight of the Environmental Health Manager or employee designated by supervisor, employees will be trained on the daily operations of the ATCPHD vector control program. This document allows employees to review and revisit procedures they were trained on to ensure proper, effective, and safe operations.

Sec. 1.2 Scope
These procedures allow ATCPHD to conduct surveillance for the presence of arboviruses by surveying, sampling and sending off testing of local mosquito populations in the city of Abilene while providing assistance and recommendations to the businesses and citizens of Abilene.
Shared Collection Data

<table>
<thead>
<tr>
<th>Longitude</th>
<th>Latitude</th>
<th>Date</th>
<th>Time</th>
<th>Temp</th>
<th>Collection Site</th>
<th>Location</th>
<th>Taxonomy</th>
<th>Organism</th>
<th>Genus</th>
<th>Species</th>
<th>Collection Status</th>
<th>Description</th>
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<td>37.78</td>
<td>09/23/2019</td>
<td>10:00</td>
<td>N/A</td>
<td>C. Whitehead 925 S. 25th St.</td>
<td>Avita</td>
<td>Antenna caudalis</td>
<td>Culex</td>
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Public Health Guidelines for Phased Response to Mosquito Surveillance

The following recommendations are intended to guide mosquito control programs and may include other applicable community procedures. All actions are subject to change without notice due to organizational priorities, weather or other unforeseen circumstances.

**Risk Category** | **Probability of Human Outbreak** | **Public Health Threshold** | **Recommended Response**
--- | --- | --- | ---
0 | None | None | Surveillance
| | | | - Develop response plan
| | | | - Initiate community outreach and public education programs
| | | | - Conduct audience research to develop/target education & community involvement
| | | | - Control Measures
| | | | - Contact community partners
| | | | - Secure necessary control resources to enable emergency response
| 1 | Low | Normal mosquito activity with little or no evidence of viral activity | Surveillance
| | | | - Routine monitoring of public health threats by ATCPHD
| | | | - Monitor larval and adult mosquito bionomics (trap surveillance)
| | | | - Identify mosquito samples and laboratory testing for dengue virus
| | | | - Information/education
| | | | - Public education and community outreach programs focused on risk potential, personal protection and residential source reduction
| | | | - Control Measures
| | | | - Source reduction through physical and environmental measures
| | | | - Biological – mosquito fish
| | | | - Larvicide (surface oils, biorational bacterial products and insect growth regulators)
| 2 | Moderate | Virus detected in mosquito samples | Surveillance
| | | | - Increase mosquito surveillance in areas of positive traps
| | | | - Information/education
| | | | - Public health advisory released
| | | | - Advise the public and emphasize source reduction, personal protection and disease symptoms
| | | | - Control Measures
| | | | - Larvicide of breeding sites around infected trap sites
| | | | - Consider ground-based ULV adulticide application around positive trap location, with continued mosquito surveillance
| 3 | High | Virus detected in multiple mosquito samples from different times and locations and confirmed human cases | Surveillance
| | | | - Increase surveillance activities in adjacent areas where spread of virus is likely
| | | | - Information/education
| | | | - Public health warning released
| | | | - Publicize vector control measures within the target community
| | | | - Warn the general public of the probability of disease and provide guidance on methods of protection
| | | | - Control Measures
| | | | - Ground-based ULV adulticide application of area around confirmed human case(s) after mosquito trapping confirms the presence of disease
| | | | - Ground-based ULV adulticide application of positive mosquito sites and expanded areas around sites
| | | | - Consider aerial treatment(s)

**Outbreak in progress**

Multiple human cases confirmed and detection of increased or continued viral mosquito activity

Surveillance

- Continue mosquito surveillance in areas of confirmed human cases

Information/education

- Public health emergency considered

- Declaration of public health emergency/distribution of emergency alerts

Control Measures

- Ground-based ULV adulticide application in areas of clustered human cases

- Recommend aerial adulticide applications in targeted zones
Two Separate Incidents

- Positive West Nile - via trap
- Positive West Nile – avian specimen

Abilene Zoo
<table>
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<th>Business/Applicator Name</th>
<th>Address</th>
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<td>City of Abilene</td>
<td>633 Walnut St., Del Rio</td>
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**Texas Department of Agriculture**  
**Pesticide Applicator Record**

**Application Date**: 05-16-19  
**Time Started**: 1000

**Name of the person for whom the application was made**:  
**Location of Land Treated**: Southeast Park Ball Field, check with depression

**Site Treated**: we check flood zone S

**Method or Type of Equipment Used To Make Application**:  
**FAA “N” Number for Aerial Application Equipment**:  

<table>
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<tr>
<th>Product Trade Name</th>
<th>EPA Registration Number</th>
<th>Target Pest</th>
<th>Rate of Product Per Unit</th>
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<tr>
<td>Spanosil 2</td>
<td>Sp-359-600</td>
<td>moq Tuma</td>
<td>0.1g/1.25g/12/1-1/1/Net</td>
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**Is Application Applied in Regulated County**: No

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**Regulated Herbicide Permit Number**:  

**Licensed Applicator’s Name and License Number**:  
**Non-licensed Applicator’s Name Working Under Licensee**:  
**Total Acres or Volume of Area Treated**: 300.5 sq ft.

**Is Application Applied in Regulated County**: Yes

**Regulated Herbicide Permit Number**:  

**Documentation used to verify training of non-licensed applicator (Mark Applicable Box)**:  
- Direct Supervisor Affidavit  
- WPS Handler Card  
- Signed & Dated Label

**Application Date**: 05-16-19  
**Time Started**: 1:20P

**Location of Land Treated**:  
**Site Treated**: creek bed/sandy

**Method or Type of Equipment Used To Make Application**:  
**FAA “N” Number for Aerial Application Equipment**:  

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**Documentation used to verify training of non-licensed applicator (Mark Applicable Box)**:  
- Direct Supervisor Affidavit  
- WPS Handler Card  
- Signed & Dated Label
Intern help implement GIS
Trap Locations:
lon: 99.73071833 lat: 32.45528500

TRAPNUMBER

TYPE

LOCATION

DATESET
Enter a date

DATECOLLECTED
Enter a date

ENVCONDITIONS

TOTALMOS

IDENTIFIEDBY

COMMENTS

FEMALEMOS
Outreach
Eastland, Tx.
Dyess AFB

World of Work
City Hall at the Mall

Capability 10
Capability 8
Lessons Learned

• SOPs & GIS Program
  Capability 1

• Mosquito Speciation & Habitat
  Capability 1

• Bed Bug Elimination

• Larvaciding & Adulticide use
  Capability 2

• 4 Pesticide Applicator Licenses

• 1 Taking the Test 03/26/2020
  Capability 6
How to Properly Set Up Traps & Best Locations All over the City

How to make gravid water with easy access

Phased Response to Mosquito Surveillance

Master Vector Conference Training and Tarrant Co.
Mosquito Identification Training

Gambusia Fish Harvesting for Public use

How to address the Media

Capability 1

Capability 1

Capability 1

Capability 7

Capability 8
Future Initiative Goals

- Learn to Calculate Mosquito Infection Rates & Vector index
- Designate a Vector Specialist for Vector Control
- Attend Texas Mosquito Control Association Conference

- City of Abilene Emergency Preparedness Coordinator will set traps, collect mosquitoes, conduct mosquito identification, apply treatment, and help sustain the program in absence of the VCC Intern.

- Continue to Collaborate with Dyess AFB, Epidemiology Dept., & Parks Dept. to Educate the Public

The adult mosquitoes

Thank You for Opening a New World to Us!