



**After Action Report**  
**Addressed Mosquito Breeding Habitat**  
**2020**



Sea Girt National Guard Training Center  
Updated August 2020



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## **1.0 Introduction**

The “2020 Mosquito Potential Breeding Habitat Survey Report”, completed in June of 2020, identified potential mosquito breeding habitat at the Sea Girt National Guard Training Center (NGTC) and provided recommendations to eliminate these habitats. In total, 65 potential mosquito breeding habitats were initially identified in this report that required attention. These habitats included compacted or depressed areas along roadsides and in fields, storm water detention basins, and water that had collected in tarps, trash can lids, tires, and other equipment or supplies.

## **2.0 Actions Taken**

Efforts to address the 65 potential mosquito breeding habitats were conducted by Environmental Management Bureau (EMB) staff and the Stockton University Environmental Internship Program (SUEIP) advisor, with cooperation from Keith Prout (crew supervisor of repairers) on August 14, 2020 and August 19, 2020. Of the initial 65 areas identified in June, 24 were found to be dry upon arrival. These areas are no longer considered to be potential mosquito breeding habitats considering this site had received rain 2 days prior, and mosquitos require approximately 9-16 days of standing water in-order to develop and emerge. Four locations, including the display missile (P13), display tank (P14), pallets (P35), and plastic tarp (P38) had been previously removed. The HEMTT pad and catchment basin (P36) had also been demolished and removed. Four locations observed collecting water in June, such as tires, trash can lids, and metal flashing were moved or overturned to prevent water from collecting. A front-loading tractor was used to fill 4 locations (P11, P22, P23, P66) with dirt to eliminate depressed or compacted areas. P10 was partially filled with dirt, however as stated in the section 3.0 below, additional efforts will be needed to address the drainage issues for that location. Surveyors also identified 1 additional location of roadside compaction (P66), which they also filled with dirt. Of the initial 65 locations identified, 37 have either been addressed, were dry upon arrival, or are no longer present. Twenty-eight locations have not been addressed, including 10 locations of compaction or depressions along roads or in fields, 9 retention basins or naturalized infiltration strips, the opening beneath the loading dock along the back of building 60, the bucket on the tractor near building 36, the condensation discharge from the AC unit behind building 2A, and the large tires used for training near building 21. Table SG1 includes a list of all 66 locations, the status of each location, and any methods used to address them. Figure SG1 portrays the location and status of all 66 locations. All non-addressed locations are portrayed on Figure SG2.

### 3.0 Recommendations

P10, P12, P66

- Seed the dirt areas to prevent erosion and sedimentation onto the roadway

P10 – Roadside Compaction

- P10 is a highly compacted area along a roadway. Compaction from vehicles at this location is likely to continue. Any attempts to fill this area with dirt may result in sediment runoff onto the road. It is recommended that a storm drain be installed at this location, and possibly connected to the storm drain system near P12

P12 – Roadside Depression

- P12 does not properly drain into the nearby storm drain. Consider installing a French drain to facilitate drainage into storm drain

Compaction and Depressions Along Roadways

- Fill in depressions with fill dirt and/or gravel reapplying as necessary throughout the mosquitos breeding season to prevent standing water and water collection, especially if on-site activities result in depressions (April – November)
- Prohibit parking along roadsides – limit parking to graveled or paved parking lots

Compaction and Depressions in Fields

- Fill in depressions with fill dirt
- Prohibit driving, parking, or activities resulting in depressions in the fields on-site. If depressions are created fill in immediately with fill dirt.
- For spaces that are used for repeated training that results in continual depressions, like tires, consider creating a designated space using a low border and mulch which can easily be raked to fill in any depressions and prevent standing water.

Retention Basins and Naturalized Infiltration Strips (P26, 27, 43, 44, 45, 46, 47, 48, 60)

- If basins are observed retaining water, determine the cause of the standing water. Basins should drain naturally.
- Treat basins with a sustained-release larvicide, such as Bactimos Mosquito Control Dunk, Model MD541 (follow link below). One dunk is expected to treat the surface of a 100 sq. ft water body for approximately 6-8 weeks. Treatment would need to be repeated every 6-8 weeks during the mosquito breeding season.

[https://www.amazon.com/Bactimos-Mosquito-Control-Dunks-dunks/dp/B00461QTL8/ref=pd\\_lpo\\_sbs\\_86\\_img\\_1/145-5051593-8347919?\\_encoding=UTF8&psc=1&refRID=H5Y4164G2RJX2C0J8HY2#feature-bullets-btf](https://www.amazon.com/Bactimos-Mosquito-Control-Dunks-dunks/dp/B00461QTL8/ref=pd_lpo_sbs_86_img_1/145-5051593-8347919?_encoding=UTF8&psc=1&refRID=H5Y4164G2RJX2C0J8HY2#feature-bullets-btf)

Loading Dock Opening, Building 60 (P34)

- If access beneath loading dock is not necessary, consider closing openings

#### Bucket on Tractor, Building 36 (P37)

- When not in use, position the bucket in such a way that water cannot collect

#### Condensation Discharge from AC Unit, Building 2A (P39)

- Re-assess area to determine if it collects and retains water
- If water is observed collecting, improve drainage

#### Training Tires, Building 21 (P40)

- Store tires in a shed or beneath a tarp to prevent water from collecting

#### Additional Recommendations

- Keep buckets and cans upside down. Upright buckets and cans can collect rainwater.
- Keep used tires inside, or properly dispose of them
- Drill holes in the bottom of any tires, containers, etc. that must remain outside
- Revisit all documented potential breeding habitat after action plans have been implemented. Document any remaining potential breeding habitat
- Continue to monitor the mosquito population on-site
- Survey the site for potential breeding habitat every spring and fall (start and end of mosquito season)
- Compile all mosquito trapping and mosquito habitat data into a long-term database
- Track changes in mosquito populations over time (density and species)
- Identify any correlation between population density, species, available/potential breeding habitat, and climate changes
- Post signage at site entrance, camping area, beach area, and on building bulletin boards, containing recommended mosquito bite prevention methods, as described in Appendix K of the IPMP

**Appendix A**  
**Tables**

**Table SG1**

Site: Sea Girt

Addressed Mosquito Breeding Habitat Locations

Date: 8/14/2020 & 8/19/2020

Surveyors Present: John Hallagan, Sarah Helble, Will

Potential Breeding Habitat Number	Date Located	Standing Water Present?	Mosquito Larvae Present?	Description	Date Addressed	Solution
P1	6/2/2020	N	N	Dry depression	NA	NA
P2	6/2/2020	N	N	Drainage ditch/culvert	NA	NA
P3	6/2/2020	Y	N	Drainage ditch w/rocks- standing water beneath rocks	NA	NA
P4	6/2/2020	N	N	Depression	NA	NA
P5	6/2/2020	N	N	Depression	NA	NA
P6	6/2/2020	N	N	Depression along road	NA	NA
P7	6/2/2020	N	N	Depression	8/14/2020	Dry upon arrival
P8	6/2/2020	N	N	Depression	8/14/2020	Dry upon arrival
P9	6/2/2020	N	N	Depression	8/14/2020	Dry upon arrival
P10	6/2/2020	N	N	Compacted area	8/19/2020	Partially filled with dirt
P11	6/2/2020	N	N	Compacted area	8/19/2020	Filled with dirt
P12	6/2/2020	N	N	Depression- roadway runoff to drain/sewer	NA	NA
P13	6/2/2020	Y	N	Non-maintained old missile/rocket for display- openings in top & side allow water to accumulate in bottom	8/14/2020	Equipment no longer present
P14	6/2/2020	N	N	Non-maintained rusty tank for display- signs of water collecting beneath vehicle	8/14/2020	Equipment no longer present
P15	6/2/2020	N	N	Depression	NA	NA
P16	6/2/2020	N	N	Compaction	NA	NA
P17	6/2/2020	N	N	Compaction	NA	NA
P18	6/2/2020	N	N	Compaction- along road before beach	NA	NA
P19	6/2/2020	N	N	Compaction- line/area along road across campground	8/14/2020	Dry upon arrival
P20	6/2/2020	N	N	Metal flashing along building	8/14/2020	Overtured flashing
P21	6/2/2020	N	N	Vehicle rut in grass	8/14/2020	Dry upon arrival
P22	6/2/2020	N	N	Depression	8/14/2020	Filled with dirt
P23	6/2/2020	N	N	Gravel lot next to police car training area	8/14/2020	Filled with dirt
P24	6/2/2020	N	N	Depression area	8/14/2020	Dry upon arrival
P25	6/2/2020	N	N	Depression	8/14/2020	Dry upon arrival
P26	6/2/2020	Y	UNK	Retention area/line by Bldg. 46	NA	NA
P27	6/2/2020	N	N	Retention area/line by Bldg. 46	NA	NA
P28	6/2/2020	N	N	Dried road side puddle	8/14/2020	Dry upon arrival
P29	6/2/2020	N	N	Law spot in the pavement (roadside)	8/14/2020	Dry upon arrival
P30	6/2/2020	N	N	Dried puddle roadside	8/14/2020	Dry upon arrival
P31	6/2/2020	N	N	Dried grass	8/14/2020	Dry upon arrival

P32	6/10/2020	N	N	Aluminum trash cans and lids (upside down lids)	8/19/2020	Overtured lids, positioned/stacked upright
P33	6/10/2020	Y	N	Upside down tires- water collecting in sunderside of metal rim	8/19/2020	Overtured tire, positioned upright
P34	6/10/2020	Y	UNKN	Openings under loading dockp can hear water dropping	NA	NA
P35	6/10/2020	Y	N	Plastic pallet bases behind dumpsters by bldg. 60 (check bldg #)	8/19/2020	Pallets no longer present
P36	6/10/2020	N	N	HEMTT Pad	8/19/2020	Feature no longer present
P37	6/10/2020	Y	N	Scoop/bucket on bulldozer/ machinary vehicle	NA	NA
P38	6/10/2020	N	N	Tarp- covering mulch- evidence of water collecting in folds	8/19/2020	Tarp no longer present
P39	6/10/2020	N	N	Depression by AC- evidence of previous standing water	NA	NA
P40	6/10/2020	N	N	Large tires for training	NA	NA
P41	6/10/2020	Y	N	Tarp floor of mobile building with no roof	NA	NA
P42	6/10/2020	N	N	Depression	8/14/2020	Dry upon arrival
P43	6/10/2020	N	N	naturalized infiltration strip med	NA	NA
P44	6/10/2020	N	N	naturalized infiltration strip med (east)	NA	NA
P45	6/10/2020	N	N	naturalized infiltration strip med	NA	NA
P46	6/10/2020	N	N	retention basin (new FMS), dry	NA	NA
P47	6/10/2020	N	N	retention basin (new FMS), dry	NA	NA
P48	6/10/2020	N	N	retention basin (new FMS), dry	NA	NA
P49	6/10/2020	N	N	field depression	8/14/2020	Dry upon arrival
P50	6/10/2020	N	N	field depression	8/14/2020	Dry upon arrival
P51	6/10/2020	N	N	field depression	8/14/2020	Dry upon arrival
P52	6/10/2020	N	N	field depression	8/14/2020	Dry upon arrival
P53	6/10/2020	Y	Y	wet, tire area far east, large area	UNKN	Previously filled with dirt
P54	6/10/2020	N	N	along fence line, dry	8/14/2020	Dry upon arrival
P55	6/10/2020	N	N	minimal vegetation, dry patch along north fence line	8/14/2020	Dry upon arrival
P56	6/10/2020	Y	Y	Trash can lid(s) & cans, larvae	8/14/2020	Overtured Cans and Lids
P57	6/10/2020	N	N	dry patch along north fence line	8/14/2020	Dry upon arrival
P58	6/10/2020	N	N	low dry patch, minimal vegetation	8/14/2020	Dry upon arrival
P59	6/10/2020	N	N	dry patch	8/14/2020	Dry upon arrival
P60	6/10/2020	N	N	detention basin east of new FMS dry	NA	NA
P61	6/10/2020	N	N	low area	8/14/2020	Dry upon arrival
P62	6/10/2020	N	N	along range fencem trailers low area dry	8/14/2020	Dry upon arrival
P63	6/10/2020	N	N	infront of range 2, low area depression	8/14/2020	Dry upon arrival
P64	6/2/2020	N	N	Roadside compaction	NA	NA
P65	6/2/2020	N	N	Roadside compaction	NA	NA
P66	8/14/2020	Y	N	Roadside compaction	8/14/2020	Filled with dirt



**Appendix B**  
**Figures**

# Figure SG1 Sea Girt National Guard Training Center Mosquito Breeding Habitat August 2020

## Legend

### Status

- Dry and/or Not Present
- Fixed/Addressed
- Not Addressed

### Status

- Not Addressed
- Fixed/Addressed
- Dry and/or Not Present

### Status

- Dry and/or Not Present
- Fixed/Addressed
- Not Addressed
- Wetland
- Installation\_Area

0 75 150 300 450 600 750  
Feet

1 inch = 344 feet



Scale: 1 inch = 344 feet

Date: 6/11/2020

Created by: John Hallagan

Stockton University  
Environmental  
Internship Program



**Figure SG2**  
**Sea Girt National Guard**  
**Training Center**  
**Remaining Mosquito**  
**Breeding Habitat**  
**August 2020**

**Legend**

 Installation Area

 Not Addressed

0 75 150 300 450 600 750  
 Feet

1 inch = 341 feet



Scale: 1 inch = 341 feet

Date: 6/11/2020

Created by: John Hallagan

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**Appendix C**  
**Photographs**



Photograph by John Hallagan

Sea Girt National Guard Training Center 14 August, 2020

SG-MBH-1 Mosquito Breeding Habitat P66



Photograph by John Hallagan

Sea Girt National Guard Training Center 19 August, 2020

SG-MBH-2 Mosquito Breeding Habitat P10