



Mosquito Population Control: Monitoring and Mitigation of Standing Water

Environmental Health and Safety Policies, Procedures and Guidelines

Applies to:	All DEP Bureaus			
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DEP Office of Environmental, Health and Safety Compliance Authorization

I, a duly authorized representative of the DEP Office of Environmental, Health and Safety, have reviewed this document, have found it to be acceptable and authorize its use for all DEP operations.

<u>Revision / Action</u>	<u>Signature</u>	
Revision 0 /Authorization	_____	Date: 8/15/2016
Revision 1 /Authorization	 _____	Date: 7/10/2018

1. OVERVIEW

New York City (NYC) and its localities because of its size, complexity, varied geography, building and population density is prone to sustaining the transmission of mosquito borne diseases. For the NYC area, this primarily means [West Nile virus](#) (a mosquito-borne virus that can cause [encephalitis](#) (inflammation of the brain) or [meningitis](#) (inflammation of the lining of the brain and spinal cord)). There are other mosquito borne diseases, which are potentially of concern like the Zika virus, but as of the issue date of this guideline, health experts have not found Zika virus to be present in local mosquitoes and there are no cases caused by local transmission in NYC.

2. TRANSMISSION RISKS

At this time, West Nile virus is the only recognized locally-acquired mosquito-borne disease in NYC. West Nile virus is spread to humans by the bite of an infected mosquito. A mosquito becomes infected by biting a bird that carries the virus. West Nile virus is not spread by person-to-person contact such as touching, kissing, or caring for someone who is infected.

NYC had 993 **travel-associated** cases of Zika in 2016, and 130 cases in 2017. Current risks remain travel-related transmission and sexual transmission where at least one party has contracted Zika via travel.

3. CONTROLLING MOSQUITO POPULATIONS

3.1 Public Health Response

The Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) are monitoring the Zika virus outbreaks. The NYC Department of Health and Mental Hygiene (DOHMH) uses integrated pest management (IPM) and takes the following mosquito control steps:

- Removing standing water where mosquitoes breed;
- Reducing mosquito larvae in mosquito season using environmentally safe agents;
- Working with the public to reduce standing water through public; outreach/education and by investigating standing water complaints reported to 311; and
- Surveillance of mosquito populations and disease.

3.2 New York City

One of the best ways to control mosquito populations is to reduce the presence of standing water. Typically, mosquitos can breed in even small or shallow areas of standing water (as small as a bottle cap). In general it takes about 4-5 days for larvae to hatch, so inspecting and addressing standing water within a few days after a rain event is particularly important.

The NYC Department of Citywide Administrative Service (DCAS) and the DOHMH are partnering together to coordinate a citywide response. This response includes the participation of all City agencies to proactively address standing water as well as conditions on city properties that can lead to accumulation of water.

3.3 DEP

Bureaus¹ who have operations that are inextricably tied to the presence of standing water (e.g. BWSO Bluebelt Wetland Operations, BWT Wastewater Operations and others) have been working for extended periods with the NYC DOHMH to incorporate inspections and larvicide schedules as needed. Some of DEP's other facilities however may also create opportunities for mosquitos to breed. This may include buildings, properties, parking lots, storage lots, sidewalks, garages, yards, rooftops and any other building or property characteristic that promote flooding or pooling of water. As such, DCAS has requested that all City agencies establish ongoing protocols to monitor standing water on their properties on a regular basis (at least weekly and/or a few days after a rain event).

To this end, it is recommended that all DEP Bureaus take the following steps at their facilities and properties.

1. Identify all areas where standing water collects and take immediate steps to eliminate them. This may include sweeping standing water to a drain or basin, unclogging a drain, and sweeping out or otherwise removing standing water in depressions in pavement, sidewalks or gravel lots. Potholes in yards should be filled whenever possible.
2. Inspect flat rooftops, gutters/leaders, and drains **weekly** for clogs or accumulation of standing water and take steps to eliminate it.
3. Remove debris and dense vegetation that provide small pools for mosquito breeding.
4. Take steps to perform inspections on a regular basis keeping in mind that it takes 5 days for larvae to hatch. Inspections should be initially conducted to identify all

¹ BWS areas outside of New York City are within the jurisdiction of local County health departments, which are responsible for mosquito control in those areas.

potential problem areas. Ongoing inspections should occur on a regular basis, especially within a day or two after heavy rain events.

5. Educate employees about the risks associated with standing water and ask them to report standing water which they observe on DEP properties to their supervisors, EHS representative, or Facilities Coordinator. Bureaus that have large numbers of employees that work in public areas should take steps to inform employees to report standing water using the City's Citizen Service Center Line (311) and the DOHMH Web site (www.nyc.gov/health/mosquito) .
6. Bureaus that identify problem areas or conditions that cannot be mitigated using resources at hand, should call DEP Facilities Management and Construction (FMC) to request assistance for larviciding or drain clearance. DCAS currently has a contract with Verrazano Extermination Corporation. Verrazano may be deployed to apply larvicide. (Note: DEP employees who are not licensed pesticide applicators should not apply larvicide themselves).
7. Bureaus that identify situations or conditions which are difficult to address, should contact Persis Luke in OEHS who will ask DOHMH for assistance in the form of evaluation and treatment.

Facilities that employ regular inspections by EHS or Operational staff, should consider adding these inspection points to the checklists on an ongoing basis for the duration of the mosquito season (May through October).

DOHMH will conduct need-based larviciding in accordance with permits issued by NYS DEC in catch basins, sewage treatment plants, and areas of permanent standing water. Approximately 150,000 catch basins across the City will be inspected and if justified, treated at least three times each season by hand application of larvicides.

3.4 BEDC and other Construction Sites

The same guidance as above (section 3.3) applies.

4. ADDITIONAL RESOURCES

- [DOHMH COMPREHENSIVE MOSQUITO SURVEILLANCE AND CONTROL PLAN 2018](#)
- DOHMH Web site (www.nyc.gov/health/mosquito)