Guidelines for Phased Response to West Nile Virus (WNV) Surveillance Data

Throughout Rhode Island's arboviral season (early June to late October), the Mosquito-borne Disease Advisory Group, consisting of staff from the Rhode Island Department of Health (RIDOH), Rhode Island Department of Environmental Management (DEM), and the Rhode Island Emergency Management Agency (RIEMA), meets weekly to discuss mosquito trapping results, positive EEEV and West Nile Virus (WNV) findings, environmental conditions, and other key factors to determine the risk to the public as well as determining potential actions to mitigate risk. Rhode Island's Guidelines for Phased Response to EEEV and WNV Surveillance Data are revised annually and subsequently used by the MDAG to determine risk and mitigation actions during the arboviral season.

Definitions:

Sporadic Mosquito WNV Activity

- Positive mosquito pools are detected during non-consecutive weeks either from the same trap location or non-adjacent municipalities.

Sustained Mosquito WNV Activity

- Positive mosquito pools are detected for at least 2 consecutive weeks from the same trap location or two or more traps with geographic clustering.

Determining when Seasonal Mosquito Surveillance Ends

Mosquitoes become less active at temperatures below 58° F and become largely inactive when temperatures fall below 50° F. Due to decreased average mosquito densities in the fall, the end of mosquito surveillance should be considered once nighttime temperatures drop into the 50s on a consistent basis.

The Seasonal End to Mosquito-borne Arboviral Human Risk

The risk of human mosquito-borne disease remains each fall until the entire state of Rhode Island experiences a true hard frost, which is defined as three consecutive hours below 32° F.

Probability of Locally Acquired Human Disease	Definition of Risk Category	Recommended Response
West Nile Virus Low Risk	**Low Risk If:** No evidence of WNV Activity in mosquito pools statewide *AND* No animal/human cases **Note:** Neighboring state's surveillance data should be considered when determining risk level and response	**Larvicide:** 1. RIDEM makes larvicide available to all interested municipalities to treat storm drains as resources allow **Education:** 1. RIDEM issues an initial press release at the start of the season to: a) Share initial mosquito surveillance results. b) Provide education on personal protective measures. c) Refer the public to RIDOH and DEM websites during the season. RIDEM will not issue weekly press releases while Rhode Island's WNV risk is determined to be low. 2. Public Education using: a) Printed materials. b) Social Media Posts c) Paid media campaigns as funding permits 3. RIDOH/RIDEM websites are updated weekly

Probability of Locally Acquired Human Disease	Definition of Risk Category	Recommended Response
West Nile Virus Medium Risk	**Medium Risk If:** Sporadic WNV Activity in mosquito pools *AND* No mammal/human cases **Note:** Neighboring state's surveillance data should be considered when determining risk level and response	**WNV Low Risk Responses plus:** **Education:** 1. RIDEM issues a press release when positive WNV mosquito samples are identified and provides education on personal protective measures. **Surveillance:** 1. The RIDEM entomologist alerts municipalities and provides a one-page report when a positive mosquito pool is detected within its borders. 2. The RIDEM entomologist or the RIDOH epidemiologist alerts neighboring states when a positive mosquito pool is detected near its border with Rhode Island.

Probability of Locally Acquired Human Disease	Definition of Risk Category	Recommended Response
West Nile Virus High Risk	**High Risk if:** Sustained WNV Activity in mosquito pools *AND / OR* One or more confirmed mammal/human cases, with or without geographic clustering *AND / OR* Significant activity on the border of neighboring states, indicating a higher risk in Rhode Island. *Note:* Consider evidence that risk is high based on time of year, weather patterns, mosquito populations, or other ecological factors	**WNV Medium Risk Responses plus:** **Education:** 1. RIDEM/RIDOH issues joint press release emphasizing the elevated risk level. 2. If there is an animal case, RIDEM includes the finding in a press release. 3. If there is a human case, RIDOH issues press release and Healthcare Professional Advisory. 4. Intensify public education on protective measures, especially to communities with sustained or high WNV activity, by: a) Increasing social media posts, b) Considering social media ad purchase, c) Requesting other state agencies to amplify/share/repost messaging, d) Contacting organizers of fairs and festivals, e) Contacting colleges/universities and interscholastic league. 5. Consider displaying signage at central locations at all RIDEM-managed parks, beaches, and campgrounds. 6. Consider requesting RIEMA to host additional municipality meetings related to increased WNV transmission risk. 7. If aerial larviciding and/or adulticiding is conducted, provide education to the public, including the differences between each.

Probability of Locally Acquired Human Disease	Definition of Risk Category	Recommended Response
		Surveillance: 1. Supplemental mosquito trapping and testing may be performed in areas where sustained WNV activity has been identified. 2. The RIDOH epidemiologist alerts neighboring states when a probable or confirmed WNV human case is detected near its border with Rhode Island. **Larval Management:** 1. Consider larval reduction targeted at known habitat sites for vector species involved in transmission. **Adulticide/Larvicide:** 1. Considerations for aerial/ground adulticiding or larviciding/pellet dropping include: a. Time of year b. Weather conditions c. Canopy cover in the area d. Population that would be protected e. Range and efficacy of adulticiding by method 2. If aerial adulticiding or larviciding is recommended: a. MDAG briefs RIDOH, RIDEM, RIEMA, Governor’s Office and municipalities on the recommendation. b. RIDOH/RIDEM jointly develop and convey public health messages. c. Healthcare Professional Advisory issued by RIDOH. d. RIDEM operationalizes aerial adulticiding. e. Consider pre/post sampling of mosquito populations.