

Mid Atlantic Mosquito Control Association

2013 Conference Notes

The Role of Wildlife and Humans in VBDs - Jane Huffman

- a) Ticks
 - i) Live slow
 - ii) Environmentally tolerant
 - iii) Long lived
 - iv) Different stages feed on different hosts
 - v) Feed for long periods and consume large volumes of blood
 - vi) Feed on a variety of species
 - vii) Overwinter
 - viii) Lay massive numbers of eggs
- b) One Health perspective - Lyme Disease
 - i) Reservoirs
 - (1) White-footed mouse
 - (2) Some others may be involved
 - (3) "Bed and Breakfast" Host - white-tail deer
 - (4) Deer not good hosts or reservoirs but are the place where ticks meet and mate
 - ii) Vectors
 - (1) Ixodes scapularis
 - (2) Other species may be involved
 - iii) Pathogen ecology
 - (1) Extended feeding time required for spirochete activation
 - (2) Other agents in white footed mice
 - (a) Borrelia burgdorferi
 - (b) Anaplasma phagocytophilum
 - (c) Babesia microti
 - iv) Sentinels
 - (1) Black bear
 - (2) Coyotes and other canids
 - (3) Raccoons
 - v) Risk of transmission
 - (1) Needs to feed for an extended time (18-24 hrs) to transmit the bacteria
 - (2) Some areas are better than others
 - (3) Can be found outside the high risk areas
 - vi) Vector control
 - (1) Guinea hens love ticks
 - (2) Damminix tube - good for ticks on deer mice
 - (3) 4-poster systems to kill ticks on deer
 - (4) Mosquito Squad - commercial pest control
 - (5) Protective clothing and repellents
 - (6) Eliminate vector habitat
 - (a) Forest fragmentation adding to TBD burden
 - (b) Create tick safe zones

vii) Education

- (1) Trailhead signs
 - (2) Target risky behaviors
 - (3) Know the disease symptoms and treatment
 - (a) There are different strains of *Borrelia burgdorferi*
 - (b) These can have different symptoms and signs
 - (c) Lyme-Aid tick testing kit
 - (4) Treat your animals
 - (a) Against ticks and fleas
 - (b) Vaccinate
- c) *Borrelia miyamotoi*
- i) Found in turkeys in TN, PA, and NJ
 - ii) Probably in other areas
 - iii) First human case in 2012
- d) What is needed
- i) Tick surveillance
 - ii) Testing - if you look for it you will likely find it
 - iii) Keep an eye out for *Cytauxzoon felis*
 - (1) Disease in cats
 - (2) Vectored by ticks
 - (3) Reservoir - bobcats