Deer Ticks ...One bite can change your life...

Barnstable County Assembly of Delegates
July 20, 2016

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Welcome to POWASSAN

"The friendly Town"
Powassan Virus – 2004 to 2013  CDC Neuroinvasive cases
Powassan

Woodchuck tick, *Ixodes cookei*
Transmission time: 15 minutes after attachment
Severe disease – encephalitis, meningoencephalitis

Deer tick virus

Powassan lineage II
Deer tick, *Ixodes scapularis*
Severe disease – encephalitis, meningoencephalitis
Powassan Massachusetts, 2013- September, 2015

- 9 Cases
  - MA DPH: Increased recognition with increased evaluation of encephalitis because of WNV
- Residents of
  - Barnstable, Essex, Middlesex and Norfolk counties
- Exposure occurred in Massachusetts
- Month of onset
  - May - June, September - October
- Encephalitis requiring hospitalization
- No fatalities
Powassan 2015 Preliminary

Falmouth, Brewster

Positive detects
<table>
<thead>
<tr>
<th>Location</th>
<th>% Infection</th>
<th>Number of Ticks Tested</th>
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<tbody>
<tr>
<td>Truro</td>
<td>10.4</td>
<td>115</td>
</tr>
<tr>
<td>Orleans</td>
<td>2.5</td>
<td>118</td>
</tr>
<tr>
<td>Brewster 1</td>
<td>7.0</td>
<td>129</td>
</tr>
<tr>
<td>Brewster 2</td>
<td>0</td>
<td>114</td>
</tr>
<tr>
<td>Barnstable</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Falmouth</td>
<td>4.0</td>
<td>101</td>
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Martha’s Vineyard
Positive 1 out of 6 sites – 9.1%

Nantucket
Positive 1 out of 1 – 5.6%
Powassan – Next Steps

1) Retrospective Surveillance
2) Statewide Surveillance
   MA DPH discussing
3) Expanded Cape Cod Surveillance
   CC Healthcare Community Benefits Grant Program
   
   Proposal due July 26th

All towns
Don't let...one bite change your life...

Tick Bite Prevention - Game Plan Summary

- Tick Checks and Use of Permethrin-Treated Clothing

- Perimeter Yard Spray

- Pet Protection
Gypsy Moth – Total Acres Defoliated

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
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<tbody>
<tr>
<td>Barnstable Cty</td>
<td>13,766</td>
<td>34,375</td>
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<tr>
<td>Massachusetts</td>
<td>38,175</td>
<td>352,774</td>
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</table>
Entomophaga maimaga

Initially released in 1910
Failed to establish

Reintroduced in 1989...Connecticut

Rapid spread in the Northeast
Sustainable suppression achieved!
Gypsy Moth Defoliation - Implications

- Wildfire Risk
  - Primary Risk Driver – Drought
  - Secondary Risk Driver – Defoliation

- Fire District 1 – Cape & Islands
  - Risk index moderate but climbing
  - Small ground fuel...very dry
  - Large ground fuel...a concern

- Forest Health
  - Acorn production, forest regeneration
Acorns – primary fuel that drives the tick-borne disease ecosystem...
Acorns, Mice and Ticks are all linked