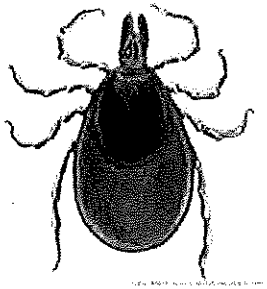
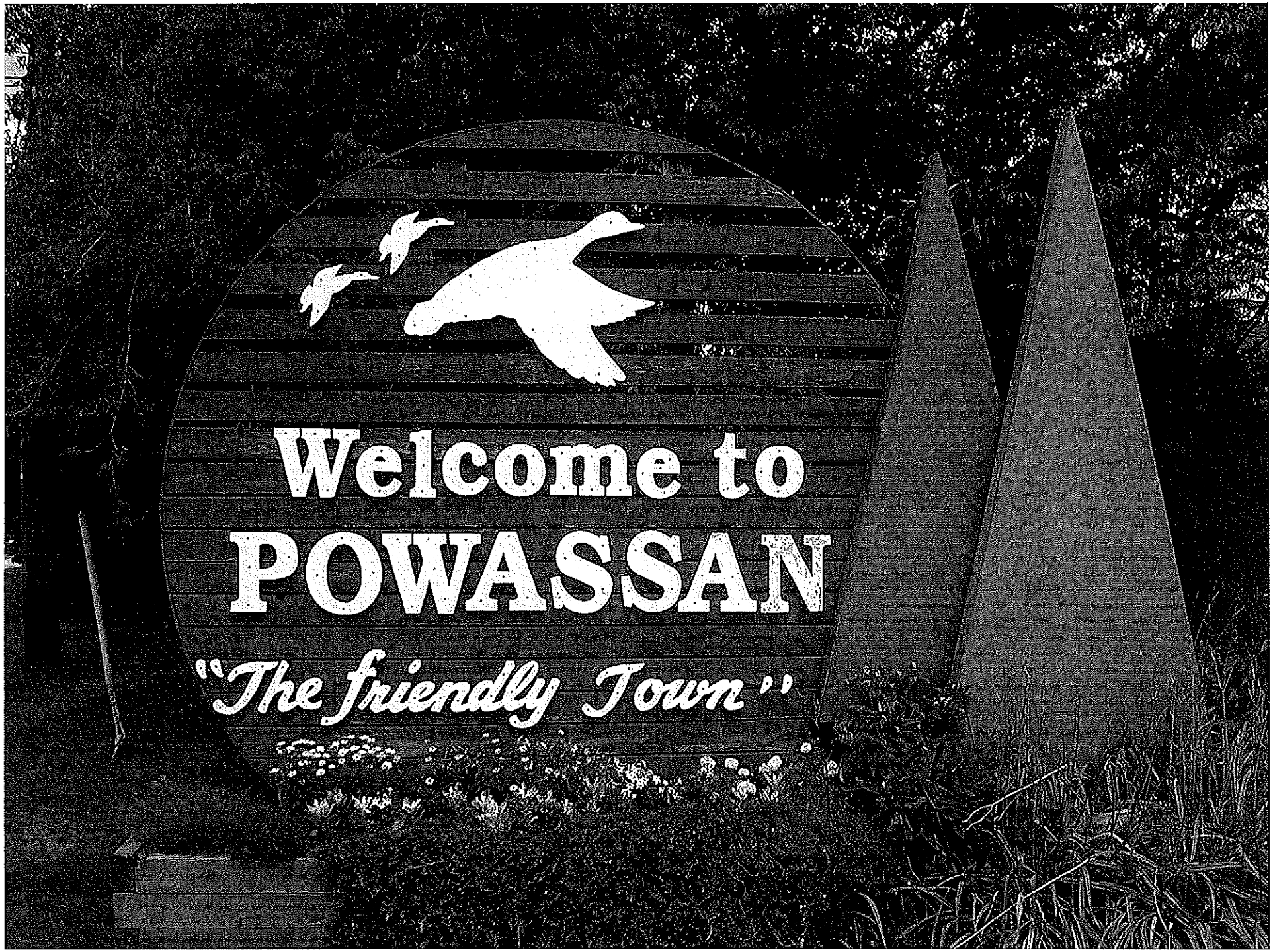


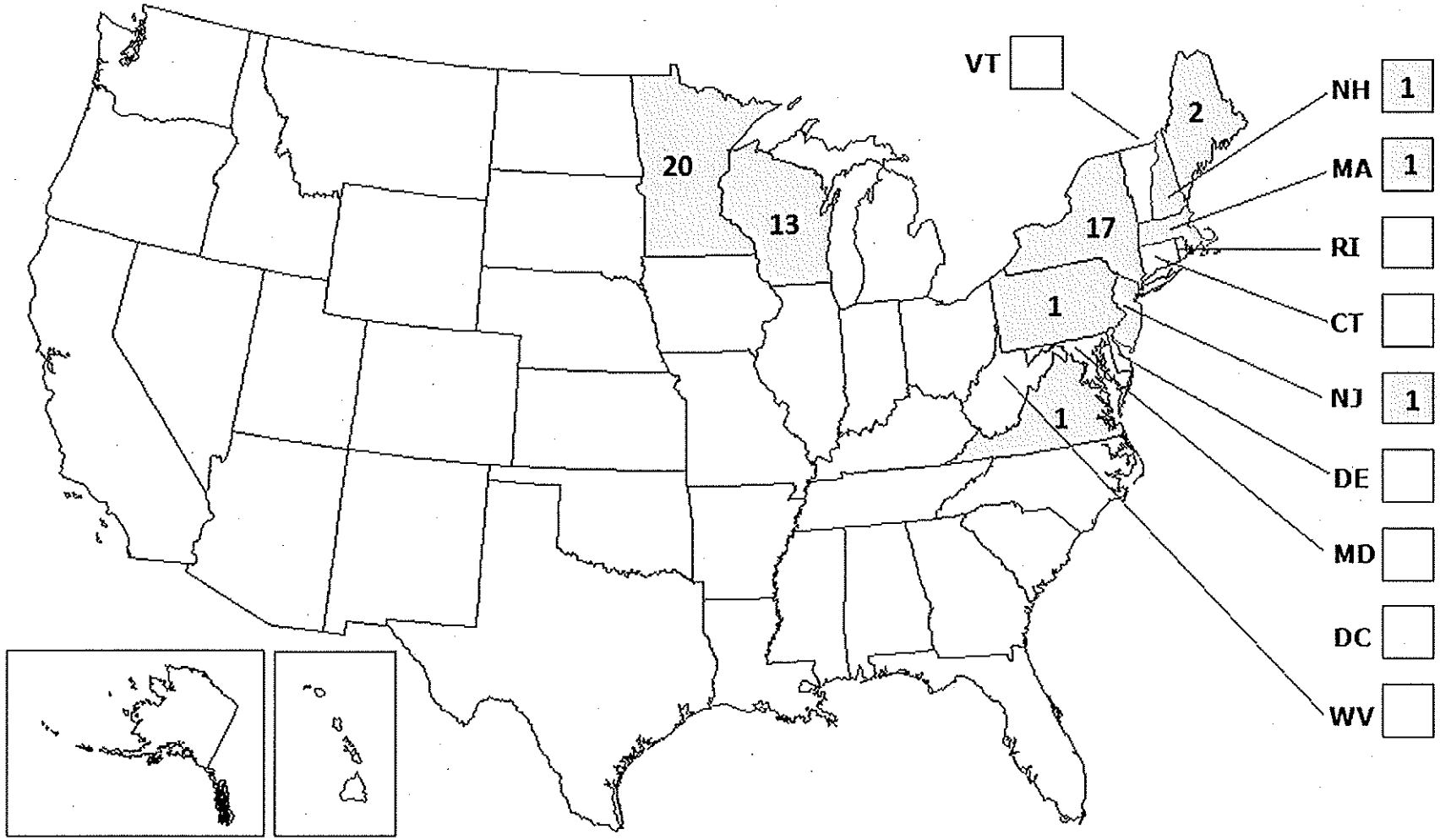
Deer Ticks *...One bite can change your life...*

Barnstable County Assembly of Delegates

July 20, 2016

Larry Dapsis
Deer Tick Project Coordinator - Entomologist
www.capecodextension.org
508-375-6642


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, menigoencephalitis

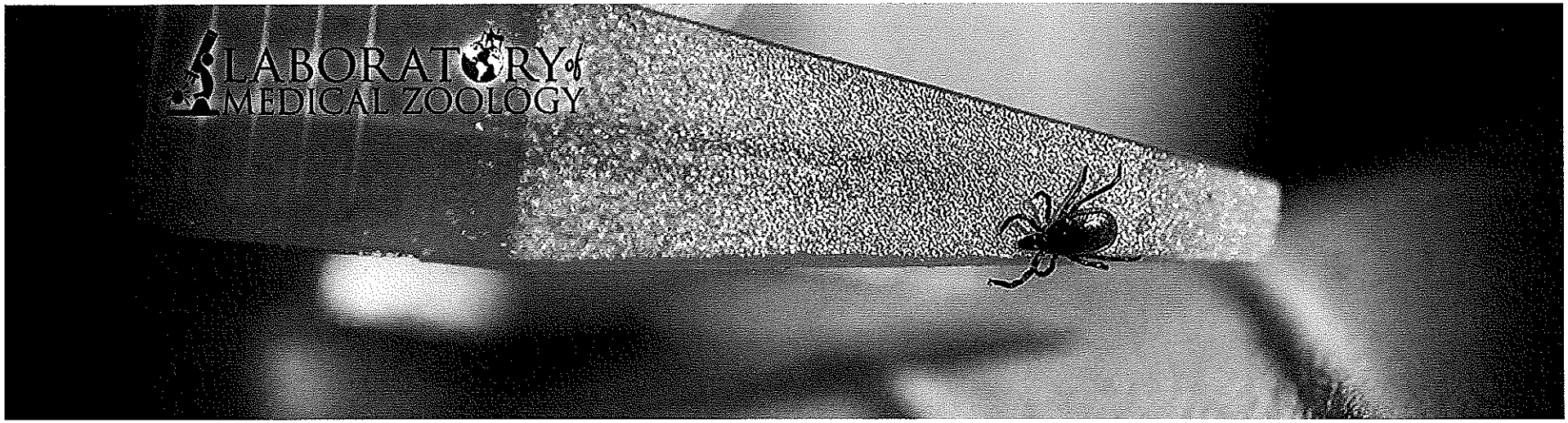
Deer tick virus

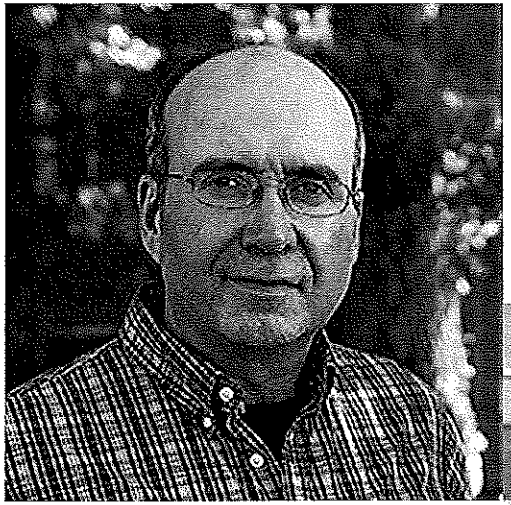
Powassan lineage II
Deer tick, *Ixodes scapularis*
Severe disease – encephalitis, menigoencephalitis

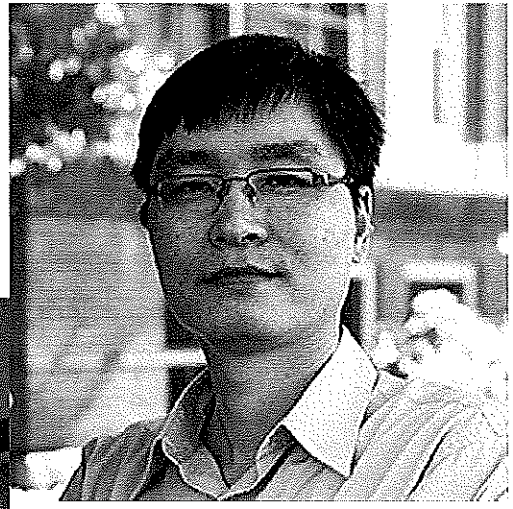
Powassan Massachusetts, 2013- September, 2015

- 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


LABORATORY of
MEDICAL ZOOLOGY

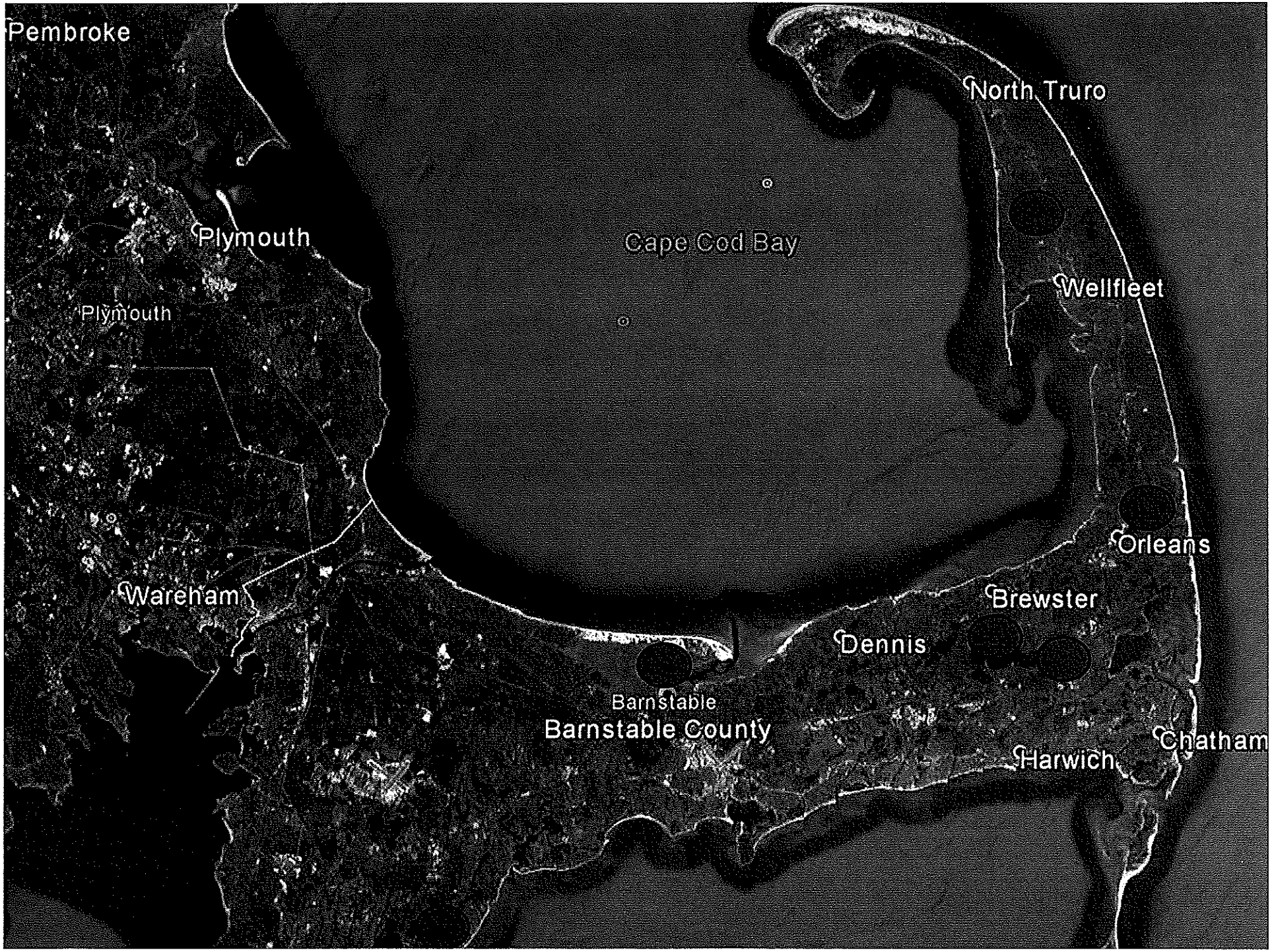




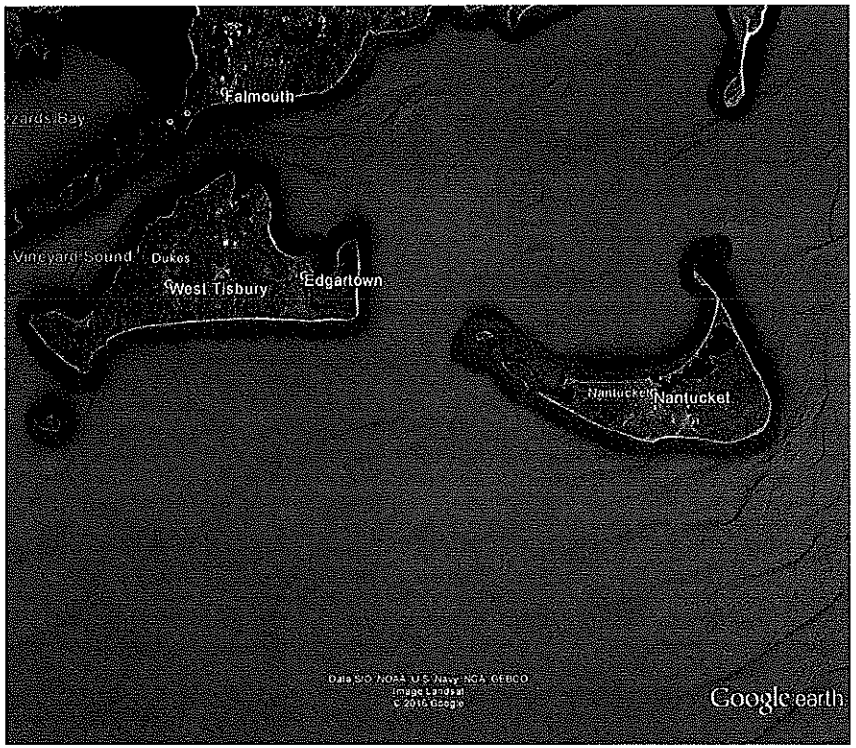
Powassan 2015 Preliminary

Falmouth, Brewster

Positive detects


Pembroke
North Truro
Plymouth
Cape Cod Bay
Wellfleet
Plymouth
Orleans
Wareham
Brewster
Dennis
Barnstable
Barnstable County
Chatham
Harwich

	% Infection	Number of Ticks Tested
Truro	10.4	115
Orleans	2.5	118
Brewster 1	7.0	129
Brewster 2	0	114
Barnstable	0	38
Falmouth	4.0	101



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

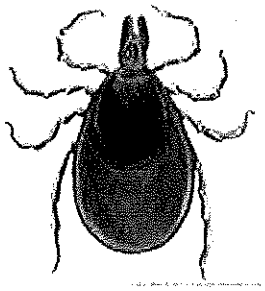
   MA DPH *discussing*

3) Expanded Cape Cod Surveillance

   CC Healthcare Community Benefits Grant Program

   Proposal due July 26th

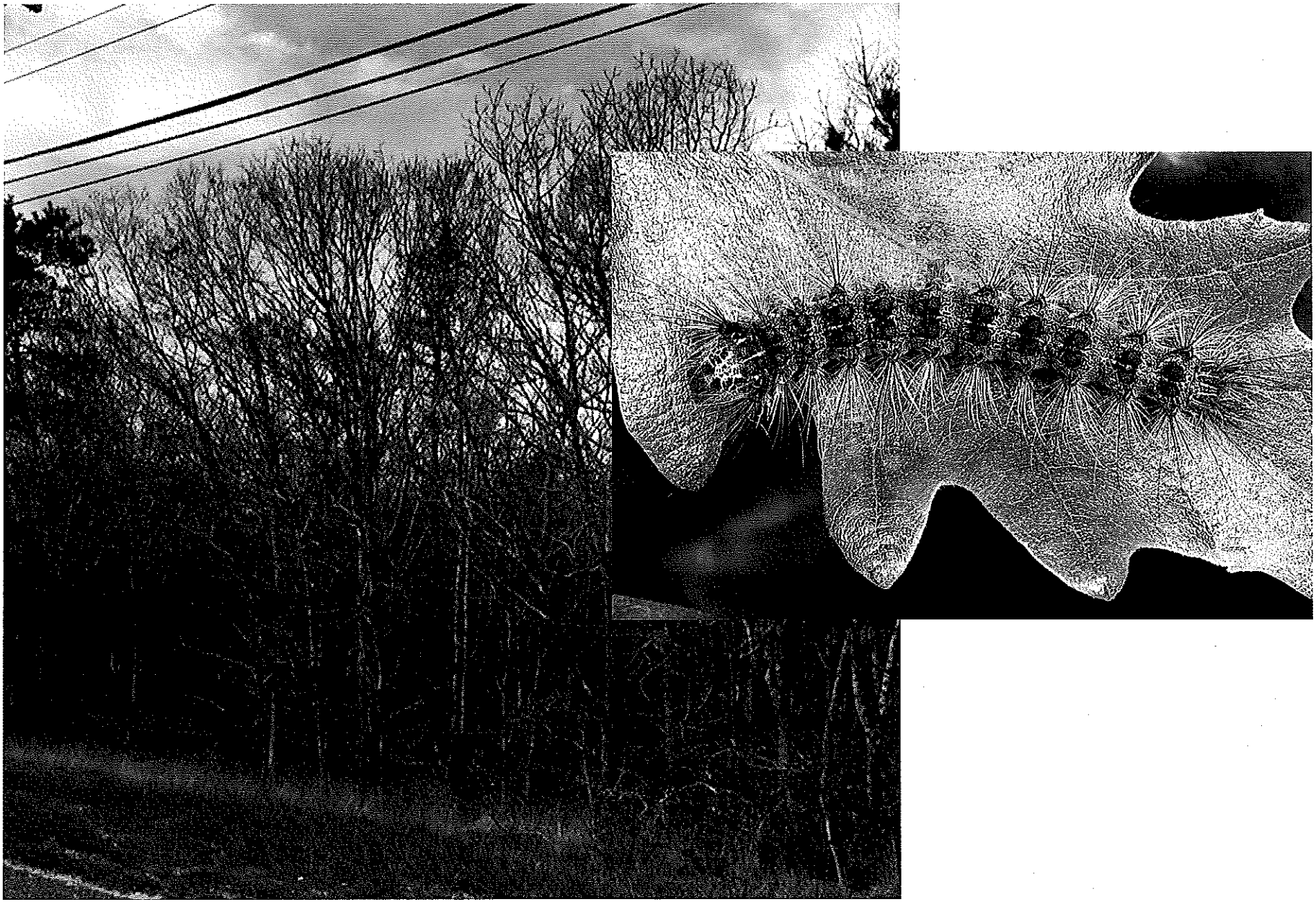
   All towns

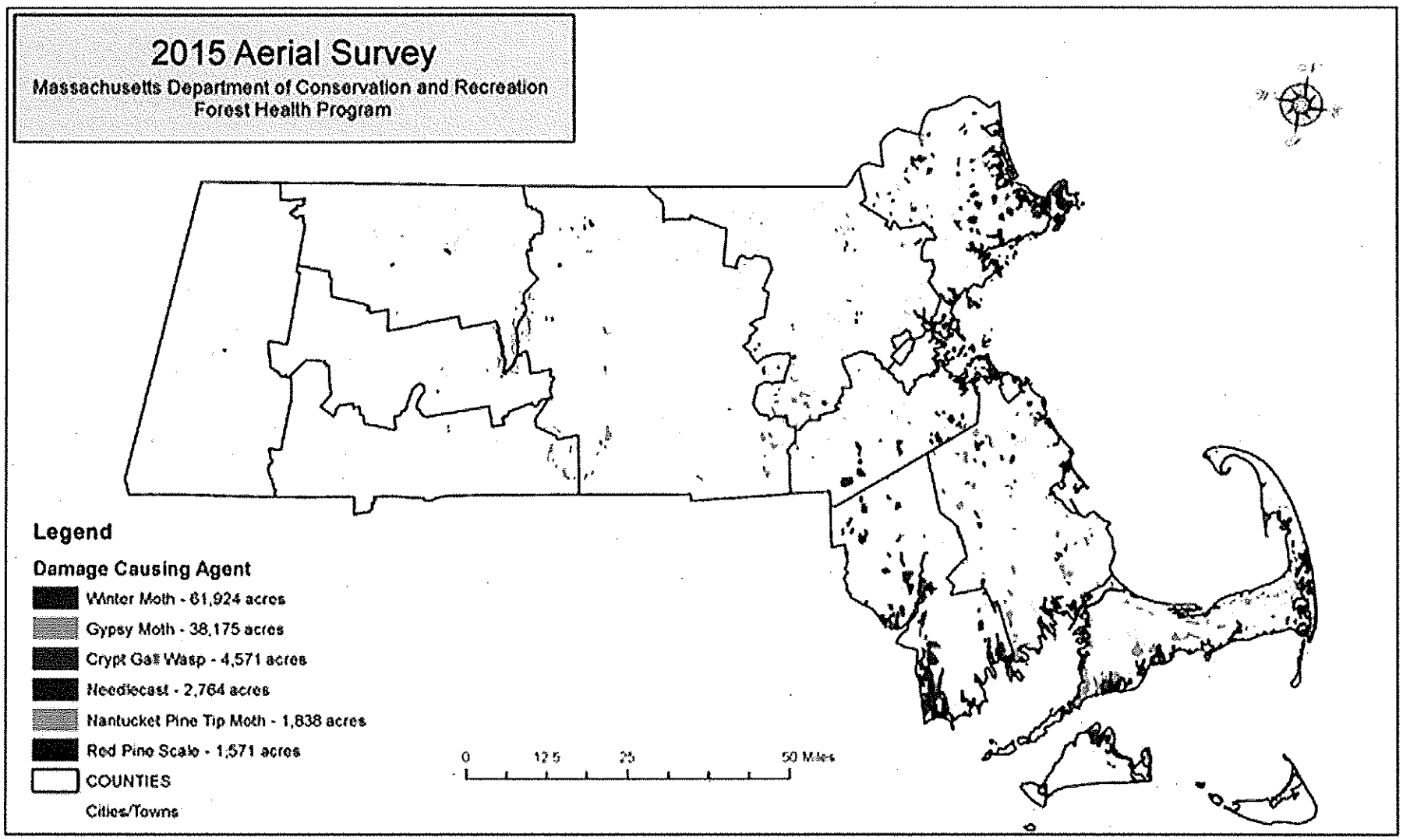


Don't let...*one bite change your life...*

Tick Bite Prevention - Game Plan Summary

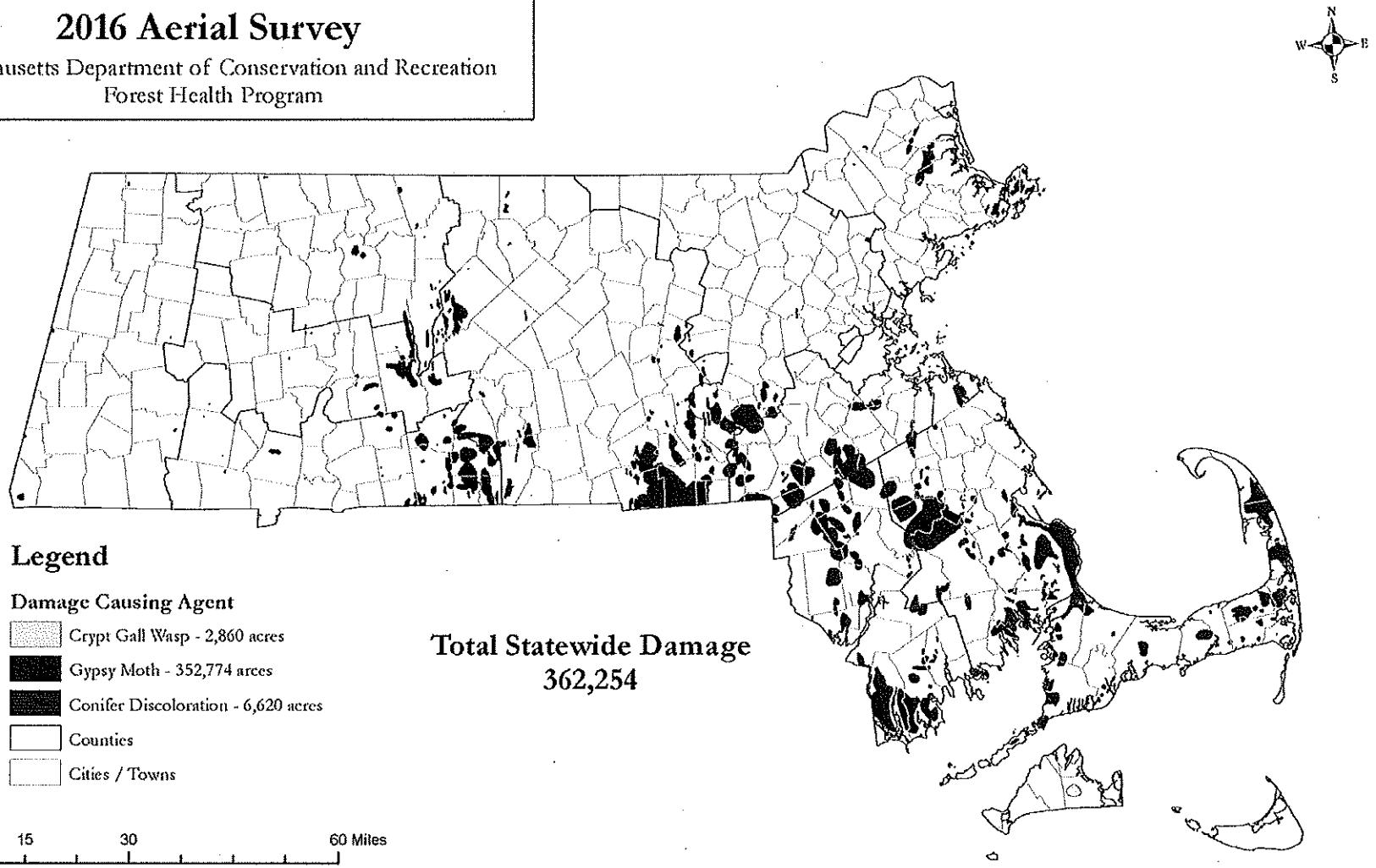
- Tick Checks and Use of Permethrin-Treated Clothing
- Perimeter Yard Spray
- Pet Protection




2015 Aerial Survey
Massachusetts Department of Conservation and Recreation
Forest Health Program
Legend
Damage Causing Agent
Winter Moth - 61,924 acres
Gypsy Moth - 38,175 acres
Crypt Gall Wasp - 4,571 acres
Needlecast - 2,764 acres
Nantucket Pine Tip Moth - 1,838 acres
Red Pine Scale - 1,571 acres
COUNTIES
Cities/Towns
0
12.5
25
50 Miles

2016 Aerial Survey

Massachusetts Department of Conservation and Recreation
Forest Health Program



Legend

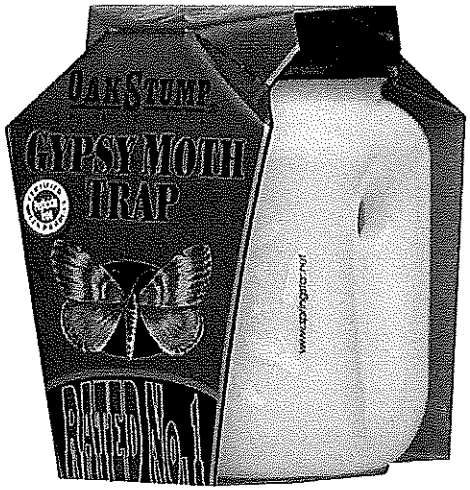
Damage Causing Agent

- Crypt Gall Wasp - 2,860 acres
- Gypsy Moth - 352,774 acres
- Conifer Discoloration - 6,620 acres
- Counties
- Cities / Towns

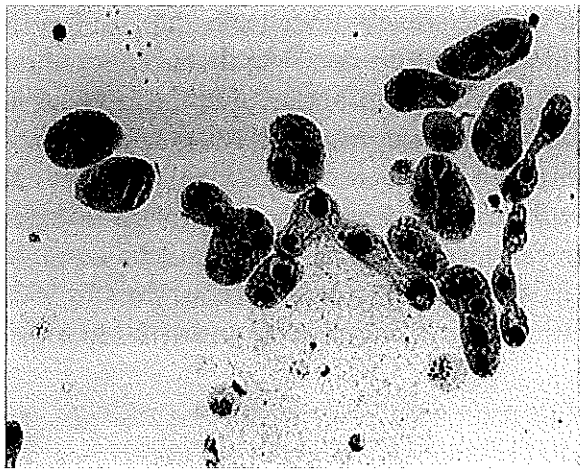
Total Statewide Damage
362,254

Gypsy Moth – Total Acres Defoliated

	2015	2016
Barnstable Cty	13,766	34,375
Massachusetts	38,175	352,774


OAK STUMP
GYPSY MOTH
TRAP
BAITED No. 1

GYPSY MOTH TRAP
UGA1523119



Entomophaga maimaga

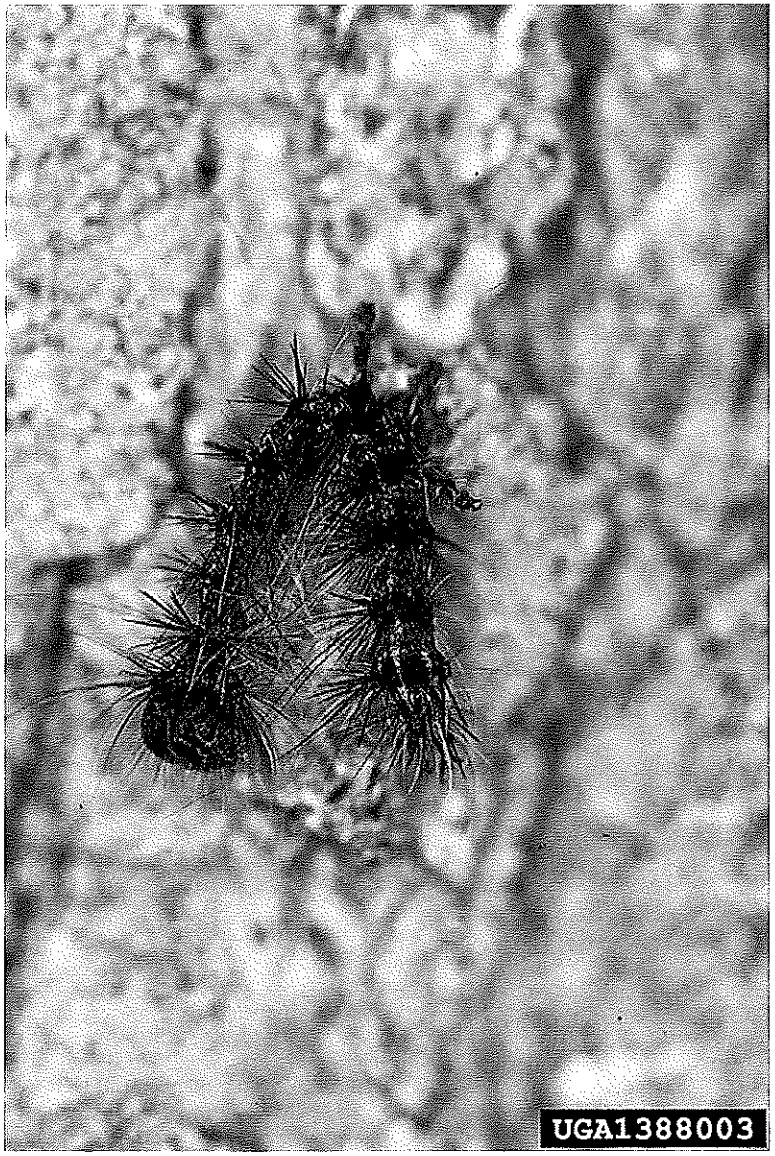
Initially released in 1910

Failed to establish

Reintroduced in 1989…Connecticut

Rapid spread in the Northeast

Sustainable suppression achieved!

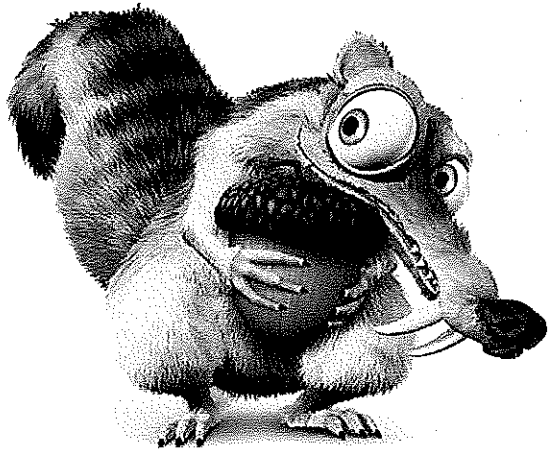

UGA1388003

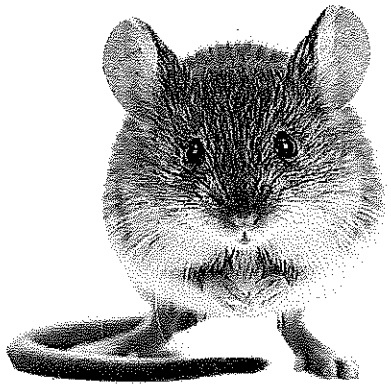
Gypsy Moth Defoliation - Implications

- 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