

Forest Pest Management – Nathaniel Nagle

- a. Background
 - i. Program established in 1992
 - ii. Amended several times to include insects other than Gypsy moth
 - iii. Also includes mosquitoes
- b. Why
 - i. Trees are economically and ecologically important
 - ii. Defoliation can cause tree mortality
- c. Pests
 - i. Fall cankerworm
 - 1. Life cycle
 - a. Adult moths emerge in late fall after a hard freeze
 - b. Lay eggs
 - c. Larvae hatch in Spring
 - d. Feed on new spring growth
 - e. Mature caterpillars burrow into soil and pupate
 - 2. Surveillance
 - a. Where
 - i. Throughout county
 - ii. Focus on forested area with favored trees
 - b. How
 - i. Band on tree
 - ii. Tanglefoot
 - c. Numbers
 - i. Started in 2003
 - ii. Peak numbers 2013-2014
 - iii. Suppression works
 - ii. Gypsy moth
 - 1. Life cycle
 - a. Adults emerge in July
 - b. Lay eggs
 - c. Larvae hatch April-May
 - d. Feed on new growth
 - e. Pupation occurs in late July
 - 2. Surveillance
 - a. 1069 sites in 2016
 - b. Each site surveyed once per year
 - i. 1/40th acre plot
 - ii. Count egg masses
 - c. Low populations last 6-7 years
 - iii. Emerald ash borer
 - 1. Cooperate with USDA APHIS EAB biocontrol program
 - 2. Parasitoid release

- a. 12 release trees/sites
 - b. 2 test locations
 - 3. Release every two weeks
- iv. Other surveillance
 - 1. Asian longhorn beetle
 - 2. Oak ambrosia beetle
 - 3. Other invasive species
- d. Aerial suppression for leaf eaters
 - i. Btk applied by helicopter
 - ii. Pre and post spray surveys
 - 1. Leaf progression
 - 2. Defoliation
 - 3. Caterpillar development
 - iii. Monitor weather conditions
 - iv. Voluntary participation
 - v. Aggressive public outreach prior to spray event