

BROWNTAIL MOTH

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Lots of Insects That Do No Harm



A Few Insects Cause Problems The Browntail Moth is one



Browntail Moth Caterpillar

Browntail Moth

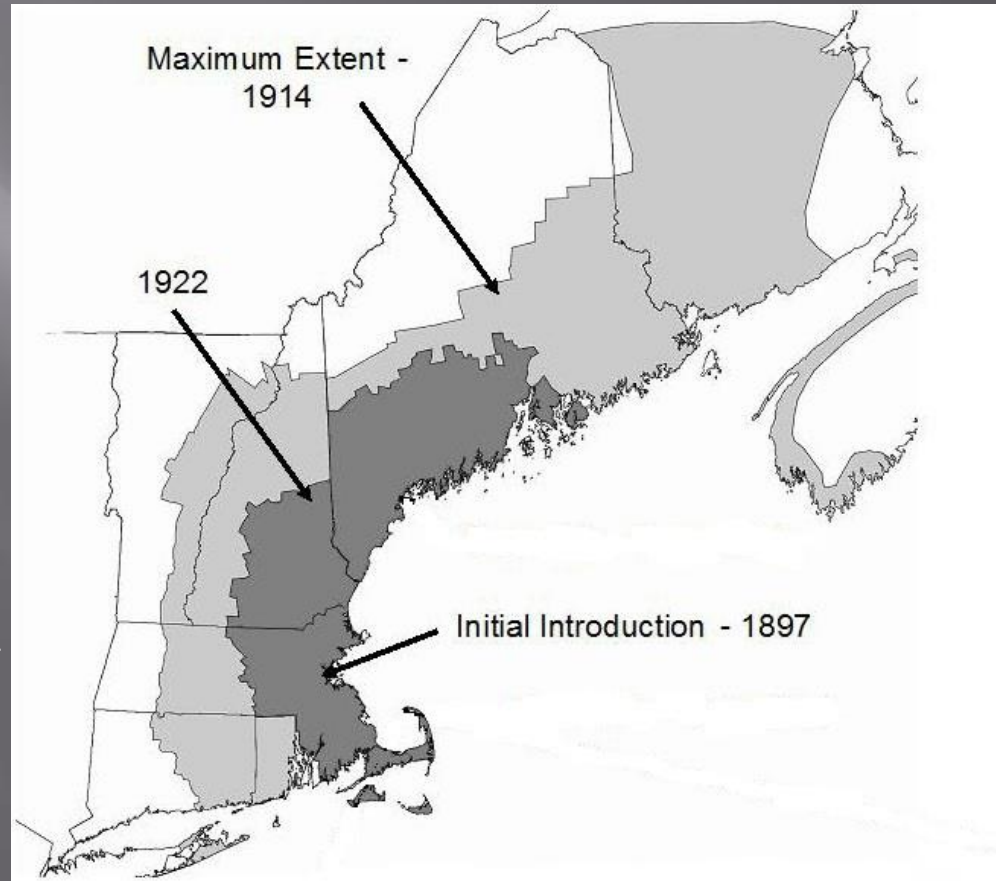
- ▣ Caterpillars toxic hairs cause:
 - Rash
 - Respiratory distress
- ▣ Caterpillar feeding causes
 - branch dieback
 - tree mortality



Browntail Moth - History

Euproctis chrysorrhoea

- ▣ First established in Somerville, Massachusetts in 1897
- ▣ By 1914 found from Vermont and Connecticut to New Brunswick and Nova Scotia



Browntail Moth Expansion by Year

Browntail Moth - History

- ❑ Extensive efforts were made during the early 1900's to control BTM:
- ❑ Winter webs clipped and burned by the 10,000's
- ❑ Spray projects initiated
- ❑ Apple trees cut down
- ❑ A federal quarantine imposed
- ❑ A huge biological control program instituted
 - Parasatoids & predators released



Pupils of Farm School, Thompson's Island, destroying winter webs of brown-tail moth, Dec., 1902.
From photo kindly loaned by Chas. Bradley, Supt.

Browntail Moth - History

- ▣ The Browntail Moth population collapsed in the 1920s
- ▣ Possibly due to a combination of weather and a fungus, *Entomophaga aulicae* and parasitoids



Infected browntail moth caterpillar

Browntail Moth - History

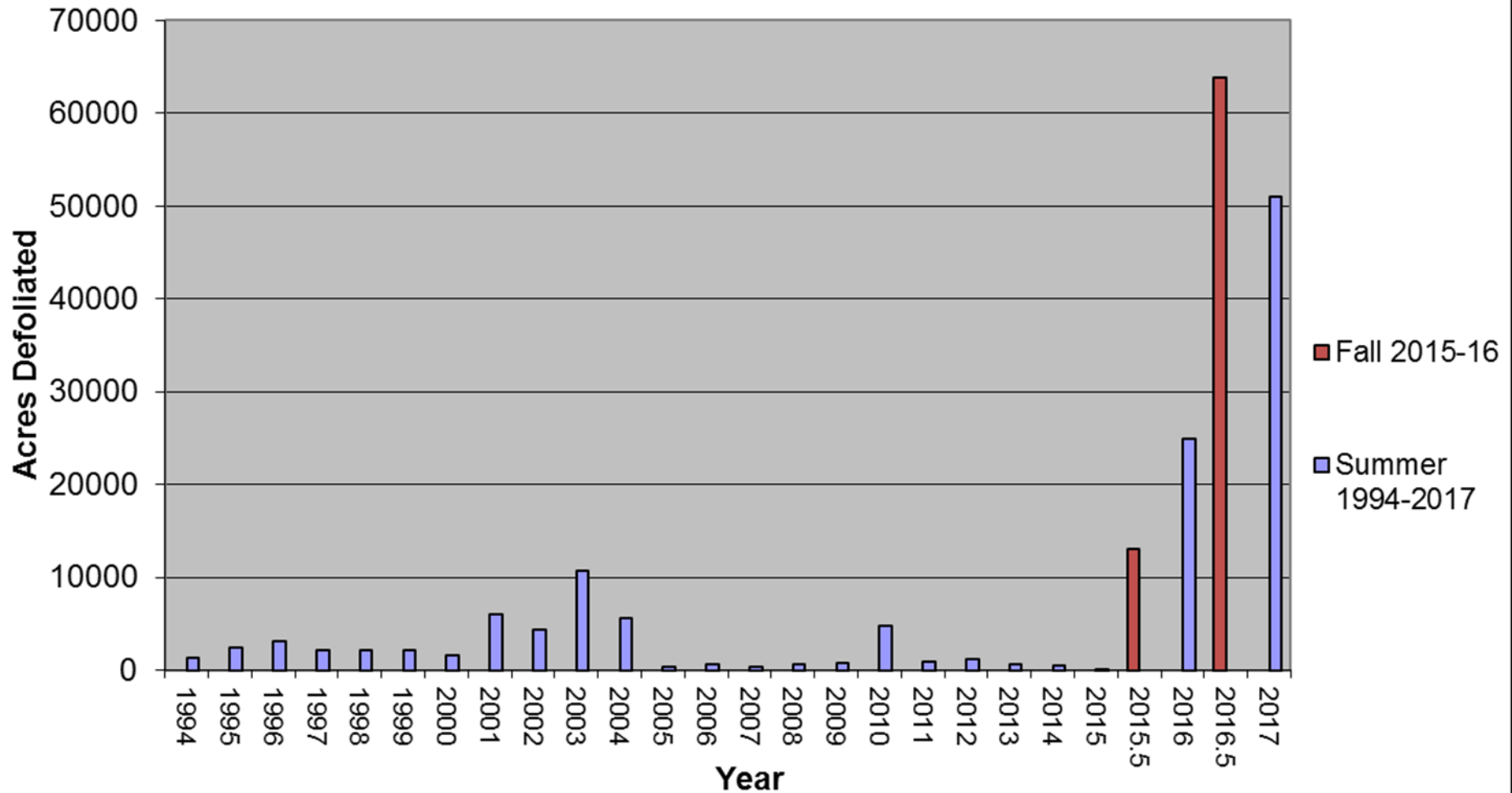
Retreated to:

- ▣ a few islands in Casco Bay, ME
and
- ▣ Cape Cod, MA

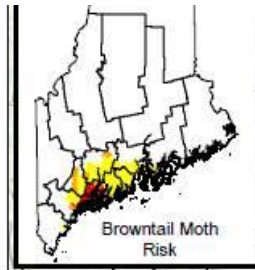
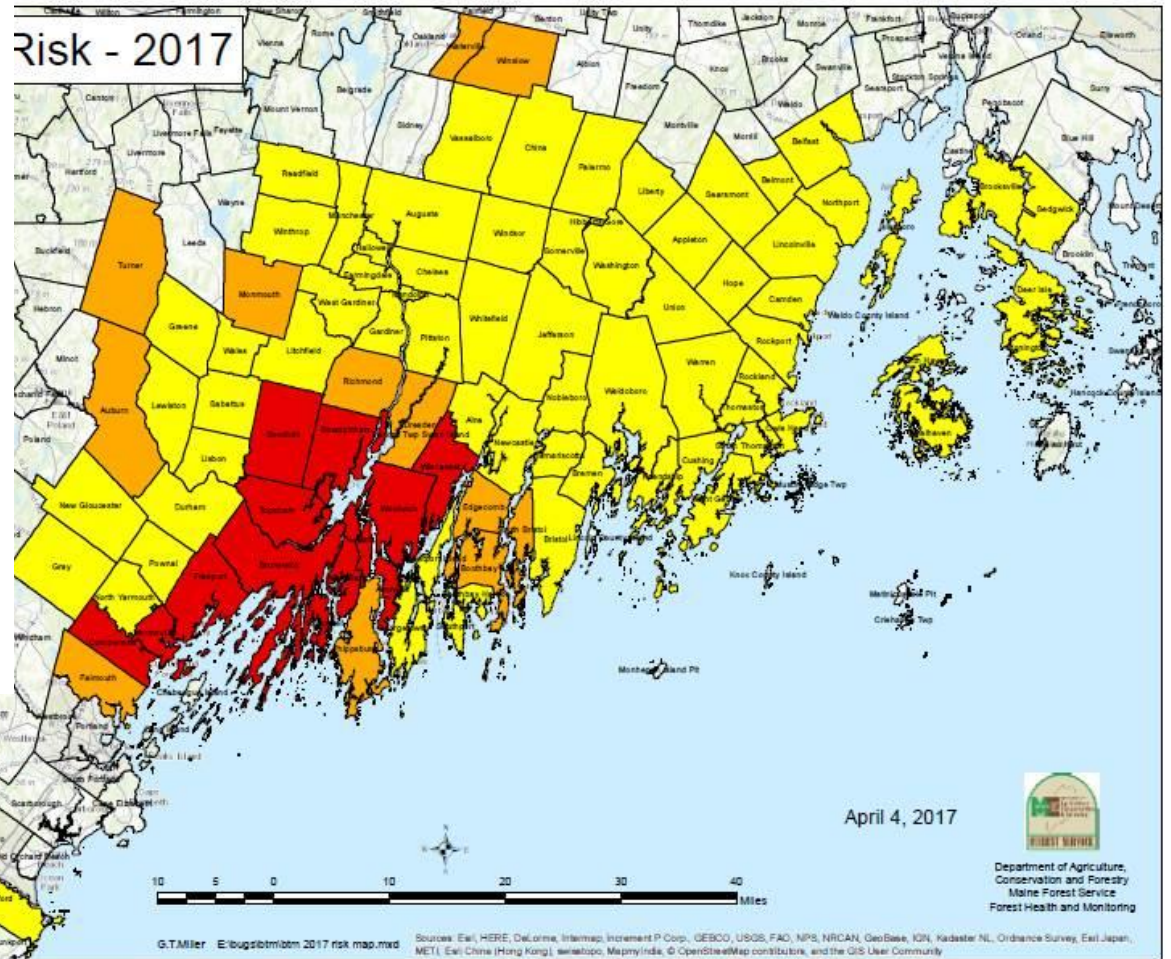
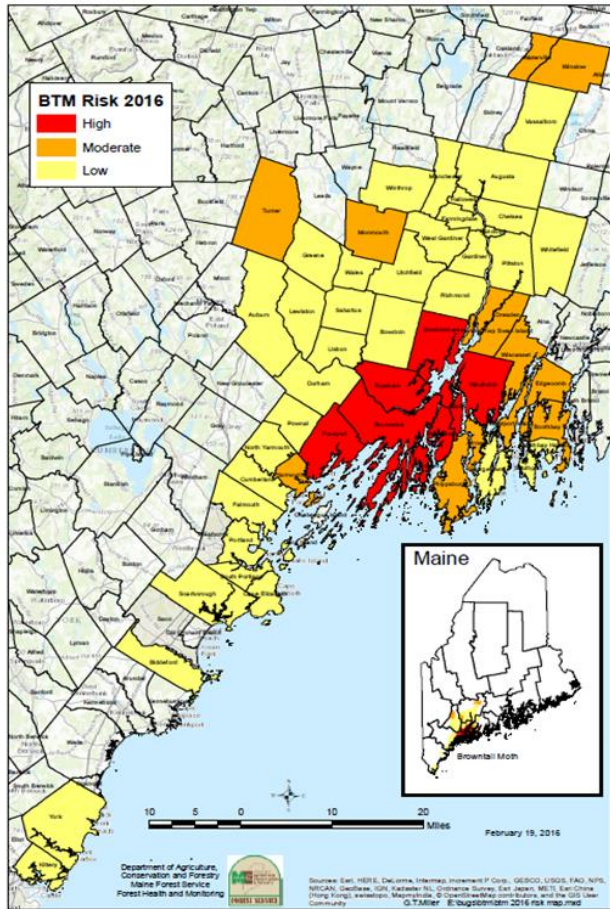
- ▣ Periodic outbreaks over next 60 years

- ▣ Returned in late 1980's

Browntail Moth Defoliation in Maine



Browntail Moth Risk - 2016



Browntail Moth

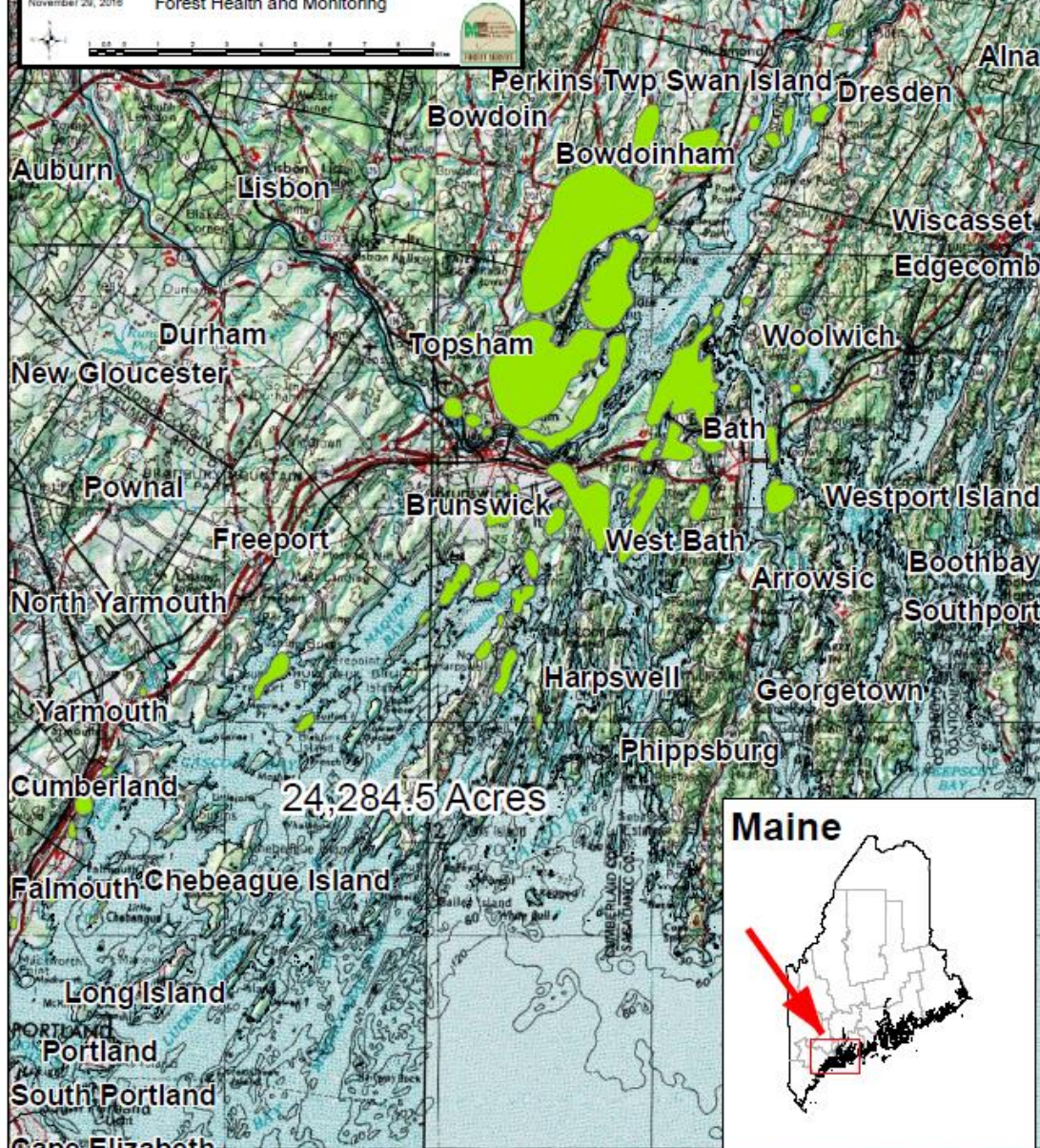
- ▣ Population surged in 2015
- ▣ Exploded in 2016
- ▣ Larger footprint across Maine in 2017
 - But spring weather helped a fungal epizootic develop
 - Population dropped dramatically in center of infestation

Browntail Moth Defoliation - Spring 2016

Department of Agriculture, Conservation and Forestry
Maine Forest Service

November 29, 2016

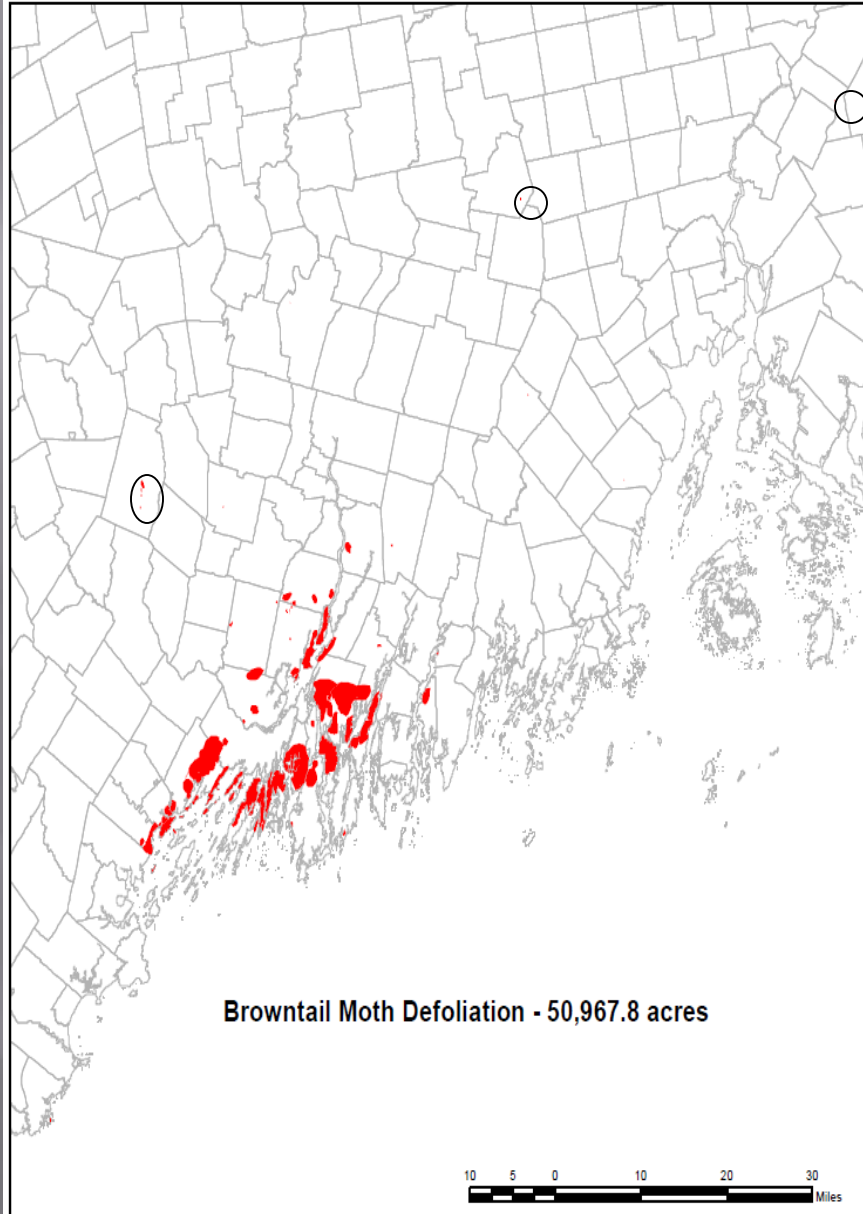
Forest Health and Monitoring



24,284.5 Acres



Browntail Moth Defoliation - 2017



Department of Agriculture,
Conservation and Forestry
Maine Forest Service
Forest Health & Monitoring

October 13, 2017



Browntail Moth

- Will not know what population levels are like until leaves are off the oak trees
- MFS conducts general survey in January/February
- Towns, individuals can survey their areas of concern
- Base actions on level of winter webs detected

Browntail Research

- ▣ University of Maine and Maine Forest Service
- ▣ Look at biorational products
 - Bt, Azadectrin, Mycotol, Tebufenozide
 - Laboratory tests
 - Planned on field trials for late summer
 - ▣ Had to abandon due to lack of low growing hosts infested with BTM
 - ▣ (fall of 2016 there were lots of good locations, fungus depleted sites)
 - Potential for some of products

Browntail Research

- ▣ Graduate student looking at role of parasitoids
 - Appear to be more important at inland locations than on coast
- ▣ Three days ago found out about trail pheromone
 - Disrupt trails on leaves so larvae can not find their way home
 - Possible line of research

Browntail Outreach

- ▣ In past year
 - 27 public information sessions put on by Maine Forest Service, Cooperative Extension, Board of Pesticide Control
 - 10 newspaper, TV or radio interviews
 - 2 press releases
 - New brochure developed and published
 - Website expanded
 - Maine CDC sent out Health Alert to providers

April-June
Larvae feeding
LOTS of HAIRS



July
Cocoons
LOTS of HAIRS
in cocoons



September-April
Larvae in webs
on tips of
branches

Browntail Moth Life Cycle Larvae for 10 months

Hairs toxic up to 3 years



July-August
Adults & Eggs



August-September
Tiny larvae skeletonize
leaves & form winter webs



Browntail Moth

- ▣ Low winter webs can be clipped and burned
- ▣ Chemical control in the spring – BEFORE the end of May
 - Later spraying does not reduce exposure to hairs
 - Hire a licensed pesticide applicator
- ▣ More effective if control is widespread



Questions?

