

# **Browntail Moth**

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**Department of Agriculture, Conservation & Forestry**

**Maine Forest Service**

# Lots of Insects That Do No Harm



# >20,000 species in Maine



# A Few Insects Cause Problems

## The Browntail Moth is one



Browntail Moth Caterpillar

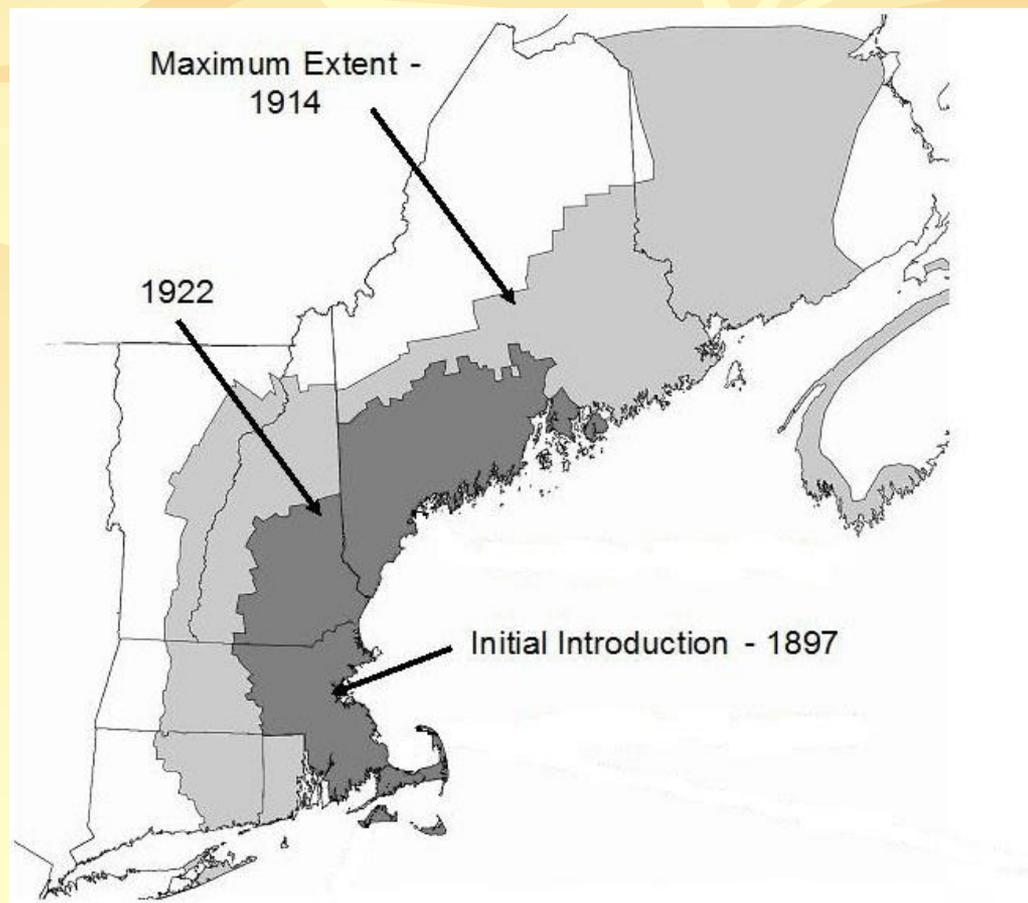
# Browntail Moth - *Euproctis chrysorrhoea*

- Caterpillars have toxic hairs that cause:
  - Rash
  - Respiratory distress
- Caterpillar feeding causes
  - Branch dieback
  - Tree mortality



# Browntail Moth

- 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

- **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 Sutt.

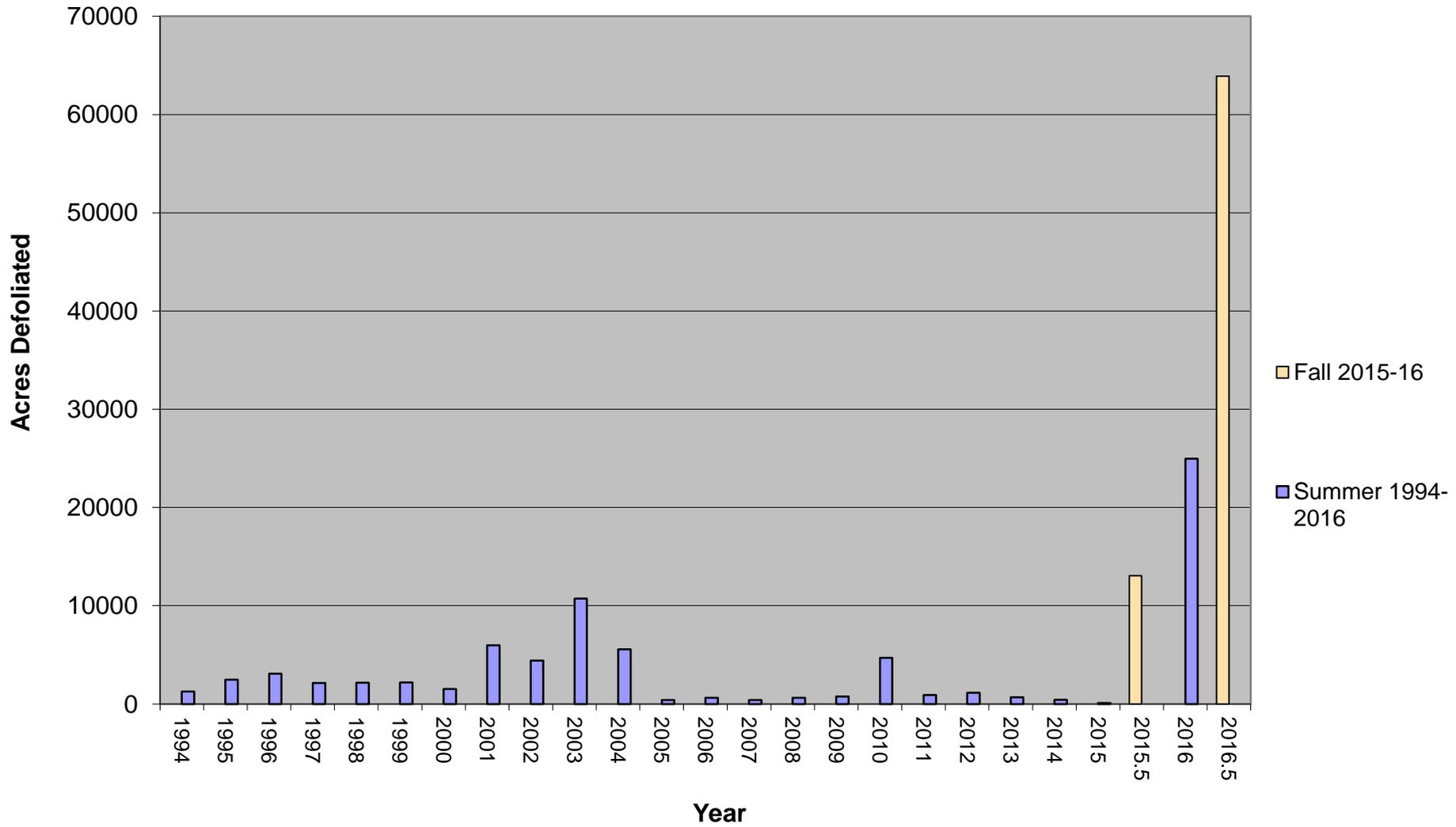
# Browntail Moth

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

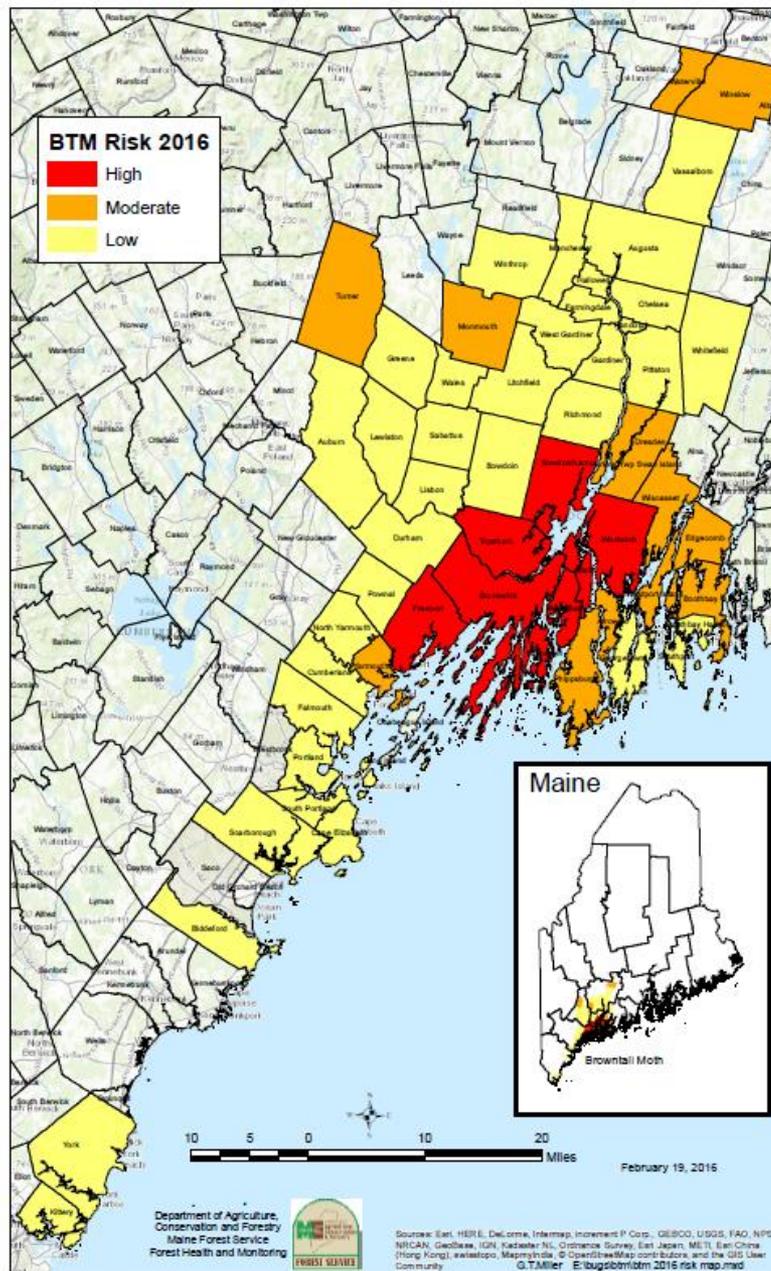


Infected browntail moth caterpillar

# Browntail Moth Defoliation in Maine



# Browntail Moth Risk - 2016



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

**Hairs toxic up to 3 years**



August-September  
Tiny larvae skeletonize leaves  
& form winter webs  
**Hairs on leaves, brush etc**

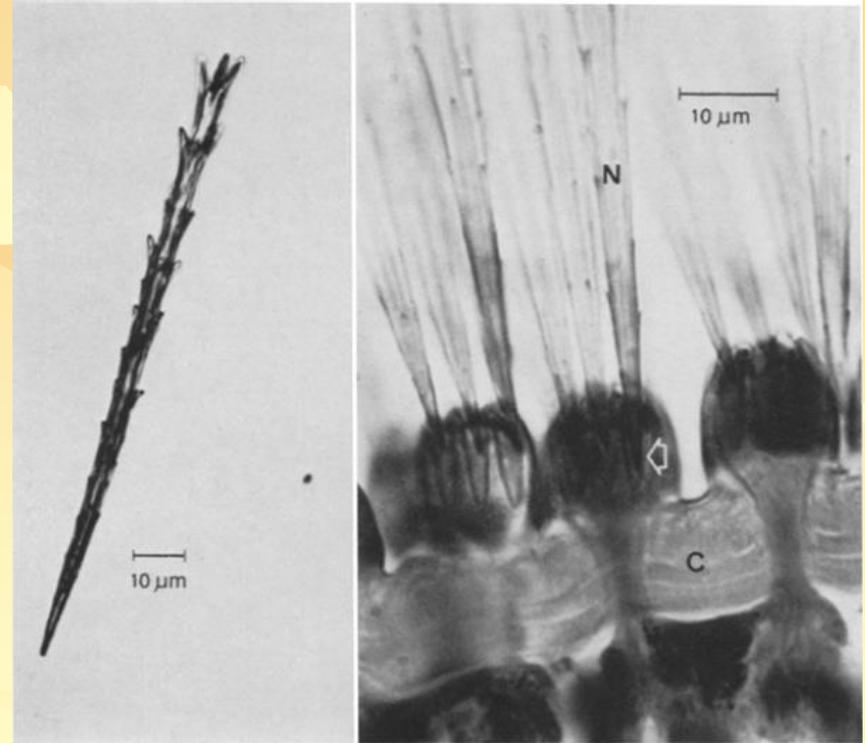


July-August  
Adults & Eggs



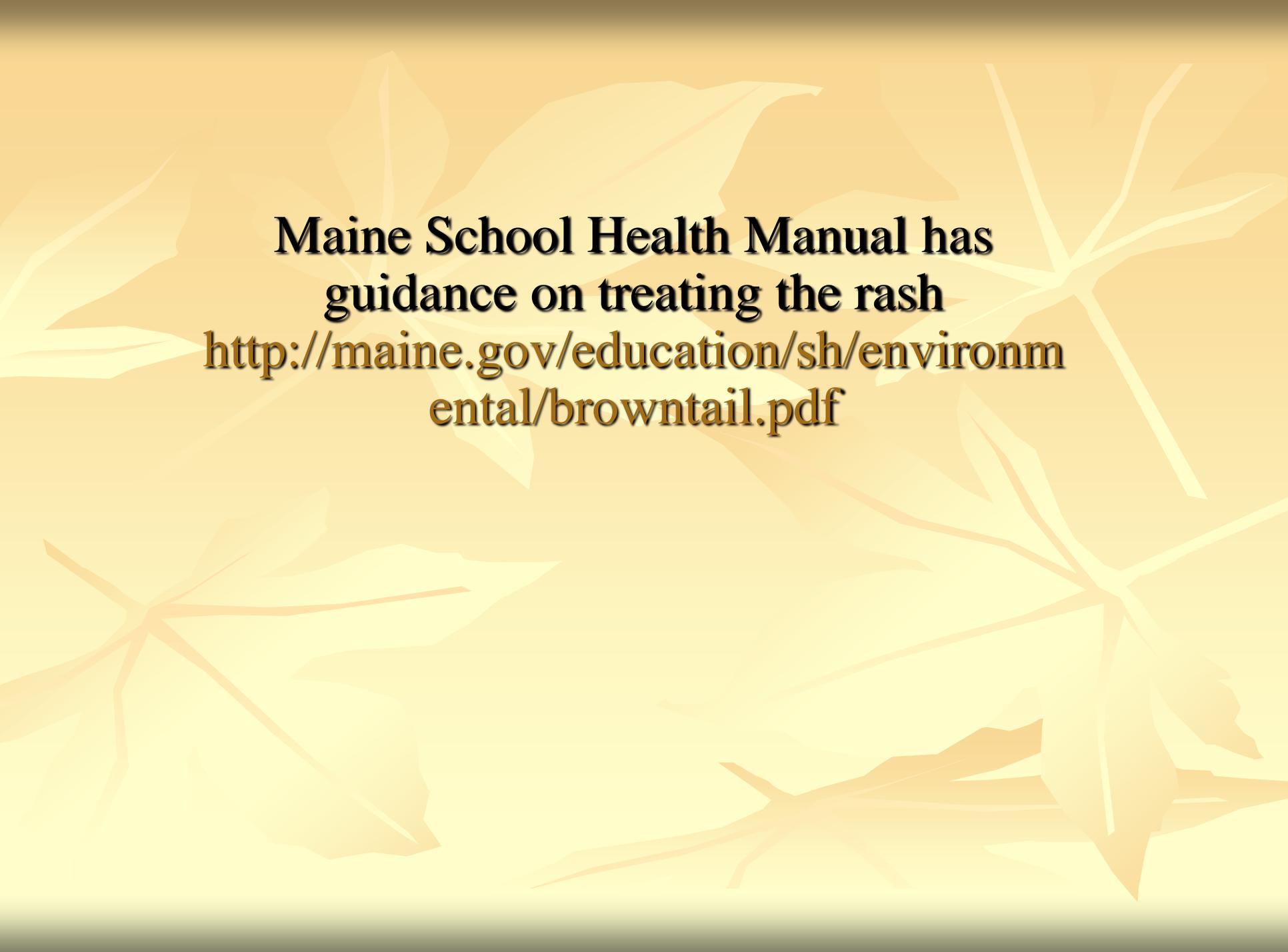
# Browntail Moth - Problem

- Hairs are on caterpillars, cast skins, cocoons and **in the air**
  - Microscopic - 150  $\mu\text{m}$  in length
  - Blow around
  - Stay toxic for 1-3 years
  - On grass, leaves and brush in summer, fall and spring



# Browntail Moth Rash

- **Contact dermatitis**
- **Most common in late June/July**
- **Can develop at the time of exposure or be delayed**
- **Duration from hours to days**
- **Treatment focused on relieving symptoms**
- **Educate about eliminating exposure**



**Maine School Health Manual has  
guidance on treating the rash**  
<http://maine.gov/education/sh/environmental/browntail.pdf>

# Gerry's Browntail Moth Spray

- **Kennebec Pharmacy, Brunswick**
- **1<sup>st</sup> Floor, Medical Bldg, Mid Coast Hospital**
- **729-3642**
- **Patrice Carter, pharmacist**
- **Requires prescription**
- **No insurance billing**

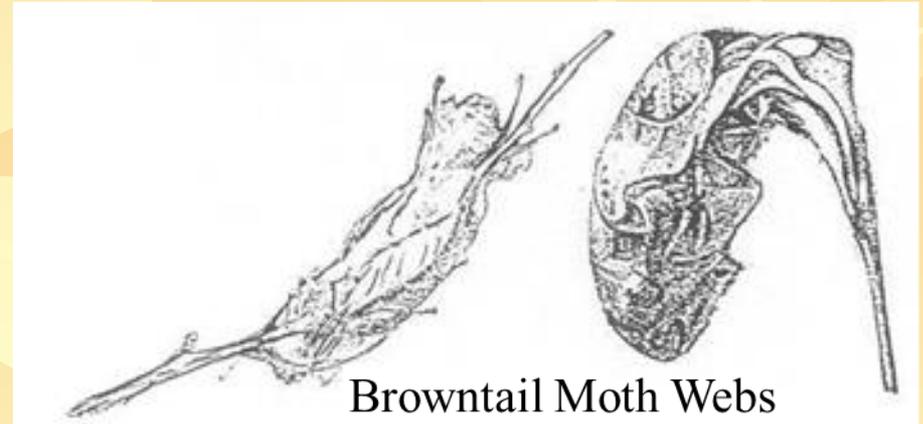
# Survey: December – March

- Look for overwintering webs on outer branches of trees and shrubs
- Oaks and apple are favored
- Other fruit trees, roses, hawthorn
- Other hardwood trees and shrubs



# Web Survey

- Webs are 4-6”
- At tips of branches
- Bright white silk attaches to branch
- Tightly bound
- Tiny caterpillars inside
- NOT loose, large fall webworm nests



# Browntail Moth – Control on low trees and shrubs

In winter

- Prune out webs and
  - Destroy
    - Soak over night in soapy water
- or
- Chip



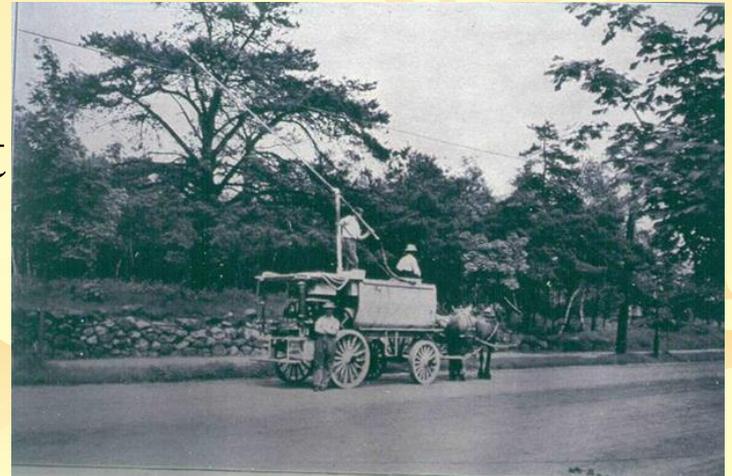
Browntail Moth Webs

# Options for Large Trees and Infestations

1. Cordon off infested area in spring  
Still will have airborne hairs
2. Hire arborist to prune webs during winter
  1. Non-chemical
  2. Expensive

# Options for Large Trees and Infestations (cont.)

- Hire Licensed Pesticide Applicator to treat trees
  - List of LPA's on MFS browntail website
    - [http://www.maine.gov/dacf/mfs/forest\\_health/invasive\\_threats/browntail\\_moth\\_pesticide\\_applicator\\_info.htm](http://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_pesticide_applicator_info.htm)
  - Costly
  - Plan ahead for May treatment
  - August treatments may be possible in future



# Browntail Moth Plan of Action

- Notify school authorities
- Decide if you will prune webs or have a spring chemical treatment or combination
- Notify staff, students and parents of browntail infestation

# Browntail Moth

- Maine Forest Service and Maine CDC are producing posters and information sheets on brown tails

## Health Alert

### Browntail Moth Caterpillars



#### Caterpillar Hairs Can Cause a Severe Rash

The rash is similar to poison ivy and can persist for days or weeks  
Consult your physician if reaction is severe

**Wear** long sleeves and pants

**Avoid** browntail caterpillars, webs and cocoons

**Avoid** entering brushy or woody areas

**Use caution on windy days** as caterpillar hairs become airborne

**Mow when grass is wet**

**Avoid** raking or weed whacking

**Wash** caterpillars off of buildings with water or use a HEPA vacuum

Do not sweep

#### Additional Information

Caterpillars feed on leaves of trees and shrubs - particularly oaks and apple  
and make webs for shelter

Caterpillars are active from April to late June

Hairs remain toxic throughout summer but get washed into the soil  
and are less of a problem over time

Moths are active in late July, they are white with fat brown bodies and are  
attracted to lights

### Brown Tailed Moth Fact Sheet



Maine Center for Disease  
Control and Prevention  
An Office of the  
Department of Health and Human Services

Paul R. LePage, Governor Mary C. Mayhew, Commissioner

#### What are brown tail moths and why should I worry?

The Maine Forest Service has seen a recent increase in reports of brown tail moths. The moth caterpillar has tiny poisonous hairs that can cause a skin rash similar to poison ivy and other more severe reactions in sensitive individuals. People within affected areas may be at risk.

#### What do the caterpillars look like?

They may reach 1.5inches in length and are brown with a broken white stripe on each side and red spots on the end.



#### What time of year am I at risk?

The caterpillars are active from April to late June, though the hairs remain toxic throughout the summer.

#### What symptoms can be caused by contact with the hairs?

Direct contact with airborne hairs can cause a localized skin rash that may last for a few hours up to several days. The rash may be red, bumpy and itchy. Certain people may experience a more severe form of the rash that may last for several weeks. In some cases, the poisonous hairs may be inhaled and can cause respiratory distress.

#### What are the possible treatments?

Treatment is based on eliminating exposure to the caterpillar hairs and treating the symptoms. Start

by taking a shower or cool bath and wash all clothing you were wearing outdoors. A mild rash may be treated with over-the-counter remedies. Consult your physician if you develop a severe reaction to the brown tail moth hairs or have trouble breathing.

#### What can I do to prevent it?

- Avoid places heavily infested by caterpillars, and if you see one, do not touch it.
- Take a cool shower and change clothes after activities where you may come into contact with caterpillar hairs.
- Dry laundry inside during June and July to avoid the hairs imbedding on clothing.
- Wear a respirator, goggles and coveralls when mowing, raking, removing caterpillar webs or doing activities that may stir up the hairs. It is better to do these activities on wet days to prevent the hairs from becoming airborne.

#### Where can I get more information?

For more information, contact your healthcare provider or local health center. You can also contact the Maine Center for Disease Control and Prevention by calling 1-800-821-5821 or visiting the Maine.gov websites below:

**Brown tailed moth Precautions** - Maine Department of Agriculture, Conservation and Forestry:  
[http://www.maine.gov/dacf/mfs/forest\\_health/insects/browntail\\_moth\\_precautions.htm](http://www.maine.gov/dacf/mfs/forest_health/insects/browntail_moth_precautions.htm)

**Rash info** - Department of Education:  
<http://maine.gov/education/sh/environmental/browntail.pdf>

**Brown tail moth webpage** - Maine Forest Service: [http://www.maine.gov/dacf/mfs/forest\\_health/invasive\\_threats/browntail\\_moth\\_info.htm](http://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm)

# Don't Forget IPM Records!



- **Keep complete pest records in Pest Activity Logbook**
  - Pest monitoring records (include date, pest name, location, pesticide and non-pesticide actions taken)
- **For pesticide applications:**
  - Commercial applicator license required
  - IPM Coordinator must **approve in advance**
  - **Send notice to parents and staff** at least 5 days in advance
  - **Post signs** at least 2 days in advance at:
    - primary access points to treatment area
    - main office of the school(s) that use the area



# Pest Management Activity Log

## Page 3—Pesticide Application

Use this page when Pesticide Applications are necessary. Use the chart to determine what type of notification and/or signage is required. The Reference number should connect to the last column on Page 1—Monitoring/IPM.

Site \_\_\_\_\_ (can be building, room, field, playground, etc)

Reference Number from Monitoring/IPM page \_\_\_\_\_

1) What is the pest? How was the pest identified?

2) How was it determined that a pesticide application was necessary? Include information about the safety, economic or aesthetic threshold reached (see chapter 27 section 5C)

3) Application information:

Date/Time \_\_\_\_\_ Applicator Name \_\_\_\_\_

Product Name \_\_\_\_\_ Applicator License # \_\_\_\_\_

EPA Reg # \_\_\_\_\_ Company \_\_\_\_\_

Specific Location (under sink, west goal soccer field, etc) \_\_\_\_\_

| Check one | See BPC Chapter 27 Section 3 for details about specific pesticide applications                         | IPM coordinator authorization | 5 day notice to parents, guardians, staff | Signs posted 2 days prior to application |
|-----------|--|-------------------------------|---|--|
|           | <b>INDOOR</b>  |                               |   |  |
|           | General use antimicrobial products for cleaning  | NA                            | NA  | NA                                       |
|           | Paints, stains or wood preservatives   | NA                            | NA  | NA                                       |
|           | for control of stinging or biting insects  | required (go to 5)            | NA  | NA                                       |
|           | injected into cracks, crevices or wall voids   | NA                            | NA  | NA                                       |
|           | bait blocks, gels, pastes, granular and pelletized materials in areas inaccessible to students         | NA                            | NA  | NA                                       |
|           | indoor application with no re-entry or restricted entry interval, but entry is restricted for 24 hours | NA                            | NA  | NA                                       |
|           | mosquito control in the event of arbovirus positives as defined in Section 3C                          | NA                            | NA  | required (go to 7)                       |
|           | in facilities used for agricultural or horticultural education (see chapter 27 section 3D)             | NA                            | NA  | required (go to 7)                       |
|           | Any other applications made while school is not in session*  | required (go to 5)            | NA  | required (go to 7)                       |
|           | Any other application made while school is in session*   | required (go to 5)            | required (go to 6)                        | required (go to 7)                       |
|           | <b>OUTDOOR</b>   |                               |   |  |
|           | Any application made while school is not in session*   | required (go to 5)            | NA  | required (go to 7)                       |
|           | Any application made while school is in session*   | required (go to 5)            | required (go to 6)                        | required (go to 7)                       |

(Use the chart above to determine which of the following are required. For further clarification consult BPC Chapter 27)

5) Authorization by IPM coordinator \_\_\_\_\_  
signature \_\_\_\_\_ date \_\_\_\_\_

6) Date notification sent to parents, guardians and staff: \_\_\_\_\_

7) Date and locations of signs posted: \_\_\_\_\_

Download forms at  
[maine.gov/schoolipm](http://maine.gov/schoolipm)

Click on ‘Tools,  
Templates and Tips’

- Division of Animal and Plant Health
- About Us
- FAQ
- Laws & Rules
- Programs
  - Agricultural Compliance
  - Animal Health
  - Animal Welfare
  - Apiary (Bees)
  - Arborist
  - Board of Pesticides Control (BPC)
  - Compost
  - Ginseng
  - Horticulture
  - Industrial Hemp
  - Integrated Pest Management (IPM)
  - Nutrient Management
  - Pest Survey (CAPS)
  - Seed Potato Certification

## Integrated Pest Management

### School IPM



#### What is IPM?

Integrated pest management (IPM) is a sound, sensible approach to dealing with pests—insects, plant diseases, weeds, and more—with methods that protect human health and the environment while saving money. IPM integrates a range of biological, organic, cultural, mechanical, and chemical options to prevent and solve pest

#### For the IPM Coordinator

- [Mandatory Training](#)
- [Record-Keeping Requirements](#)
- [Maine School IPM Toolkit](#)

#### FEATURED LINKS

[Who's Your IPM Coordinator?](#) (Excel spreadsheet). All public and private schools or districts must report annually the IPM Coordinator's name and contact information (including e-mail address) using the School Staffing Report function of the Department of Education [NEO](#) system\*. If yours is listed incorrectly in the 'Who's Your IPM Coordinator' spreadsheet, send corrected IPM Coordinator name and email address by [e-mail](#) to the Board of Pesticides Control. \*NOTE: NEO allows just one IPM Coordinator to be listed. School systems with more than one IPM Coordinator should email the names and email addresses to the [NEO Helpdesk](#).

[Tools, Templates, and Tips](#)

[Pest Solutions](#)

[Training and Events](#)

[Newsletters](#)

# Browntail Moth - Precautions

- May through August: Avoid places heavily infested by caterpillars.
- After any activity that might have involved contact with browntail moth hairs:
  - Use tape to pull hairs off exposed skin.
  - **Take a cool shower and change clothes.**
- **Consult your physician** if you develop a severe reaction to the browntail moth.

# Browntail Moth - Precautions

- **Wear coveralls**, tightly closed at neck, wrists and ankles, **goggles and respirator** when performing activities that stir up caterpillar hairs such as:
  - mowing
  - raking
  - weed whacking
  - removing pupal webbing from buildings.
- **Perform the above tasks above on damp days or wet down material** with a hose as moisture helps keep the hairs from becoming airborne there by minimizing contact.

# Questions?

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(207) 287-2431

[www.maine.gov/forestpests#btm](http://www.maine.gov/forestpests#btm)

