

Browntail Moth (BTM) Frequently Asked Questions

Biology

When will the caterpillars be active?

- The caterpillars are active at two times of the year. In mid-April, they emerge from their winter webs and begin feeding and growing until they reach their maximum size in June.
- The second batch of caterpillars hatch from their eggs in August and are active until early October when they enter their winter webs to hibernate, emerging the following spring.
- Contact: Maine Forest Service: (207) 287-2431

When do the caterpillars have toxic hairs?

- Caterpillars in their third larval stage begin to develop the toxic hairs, larger caterpillars have more of the toxic hairs.
- Contact: Maine Forest Service: (207) 287-2431

What time of year should I clip overwintering webs?

- The Maine Forest Service recommends clipping webs between October and mid-April before caterpillars emerge from winter webs and begin feeding on new leaves.
- Contact: Maine Forest Service: (207) 287-2431

What trees do browntail moth caterpillars feed on?

- Browntail moth caterpillars feed on a wide range of broadleaved trees and shrubs.
- Preferred trees include oak, apple, crabapple, pear, birch, cherry as well as other hardwoods.
- Contact: Maine Forest Service: (207) 287-2431

When do browntail moth adults fly?

- Adults emerge in July and are flying through August. Peak activity around lights at night is between 10 pm and 12 am.
- Contact: Maine Forest Service: (207) 287-2431

Do the browntail moths also have toxic hairs like the caterpillar?

- There is a possibility of adult moths picking up the toxic hairs from the caterpillar stage as the moths emerge from their cocoons; however, the brown hairs on the abdomen are not the toxic hairs.
- The caterpillars, pupal cocoons, and shed skins have the toxic hairs that can cause a skin rash.
- The hairs on the adult moths are not toxic and do not cause a skin rash.
- Contact: Maine Forest Service: (207) 287-2431

What time of year am I most likely to get a rash from the browntail moth caterpillar?

- The greatest risk for exposure to the toxic caterpillar hairs is between April and July.
- Caterpillars, shed skins, and pupal cocoons all have toxic hairs that can cause a skin rash.
- The toxin is stable in the environment for 1-3 years and hairs can become airborne if disturbed, so one should take precautions year-round in heavily infested areas.
- Contact: Maine Forest Service: (207) 287-2431

Who should I contact for more information on browntail moth biology?

- Contact the Maine Forest Service forest entomologists at (207) 287-2431.

Management

Who can I report browntail moth infestations to?

- Report your detection to the Maine Forest Service if this is an area outside those where the browntail moth is widespread by going to <https://www.surveymonkey.com/r/btmreport> A risk map of heavily infested areas is available at: https://www.maine.gov/dacf/mfs/forest_health/documents/browntail_moth_risk_map.pdf
- Contact: Maine Forest Service: (207) 287-2431

How can I get rid of browntail moth adults?

- A wet/dry vacuum with a HEPA filter and filled with a few inches of soapy water.
- Keep outdoor lights off at night during the last week of June to the first week in August
- Contact: Maine Forest Service: (207) 287-2431

How can I get rid of egg masses?

- Egg masses are usually found on the bottom of the leaves of host trees (oak, apple, crabapple, pear, birch, cherry, and other hardwoods). Clip off affected leaves with gloved hands and soak the eggs in soapy water for two days then throw them away.
- Contact: Maine Forest Service: (207) 287-2431

How can I get rid of caterpillars?

- Learn to recognize and avoid skin contact with caterpillars. A key feature is two orange dots on the tail end.
- Pesticides can be used to control caterpillars. The Maine Forest Service recommends contracting with a licensed pesticide applicator to control browntail moth. Products must be labeled for the site of treatment.
- Pesticide treatments should be done before the end of May. Later treatments will not reduce human exposures to the toxic hairs.
- A list of contractors willing to do browntail work can be found here: https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm
- Contact: Maine Forest Service: (207) 287-2431

How can I get rid of caterpillars on the side of my house?

- Use a wet/dry vacuum with a HEPA filter filled with a few inches of soapy water.
- Contact: Maine Forest Service: (207) 287-2431

How can I get rid of caterpillar carcasses after pesticide treatment?

- On a damp morning, use a lawnmower with a bagger to bag clippings and remove from the site. You can also hire a lawn mowing company to do this work.
- Place a tarp or plastic under trees before treatment with pesticides. After treatment, remove the tarp/ plastic from the site, dispose of caterpillar carcasses and rinse tarp/plastic off outside.
- Contact: Maine Forest Service: (207) 287-2431

How can I get rid of webs?

- Equipment that can be used includes a pair of hand snips, hand saw, and/or pole pruner, eye protection, clothing to cover skin and gloves.
- Removing webs only requires snipping out the nest itself rather than the entire limb.
- Collect nests and burn or soak in soapy water 3-5 days then throw them away.
- Clipping and destroying webs in the fall and winter can reduce populations.
- Pesticide applications can provide relief if webs are not within reach.
- Licensed arborists can be hired to clip webs that are not within reach, the Maine Forest Service recommends hiring a licensed pesticide applicator for a pesticide application. A list of contractors willing to do browntail work can be found here:
https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm
- If you plan to hire a contractor, be aware that the demand for services is high. Try to line up services early.
- Contact: Maine Forest Service: (207) 287-2431

What is the best time of year to clip webs?

- Late October to mid/late April.
- Contact: Maine Forest Service: (207) 287-2431

What protective measures should I take when clipping webs?

- Work with a partner, especially when working from a ladder or from a lift
- Wear protective eyewear.
- Wear gloves, long sleeves, and pants. Trees and shrubs may have toxic hairs from caterpillar activity.
- Individuals with known sensitivity to browntail moth hairs may want to leave web clipping to others.
- Contact: Maine Forest Service: (207) 287-2431

How do I manage browntail moth webs in tall trees?

- Some libraries have sets of pole pruners for loan. You may also be able to rent pole pruners.
- With care, a stable ladder, such as an orchard ladder or a lift can help in access to higher webs.

- The Maine Forest Service maintains a list of licensed arborists providing pruning services that can be found at https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm.
- Contact: Maine Forest Service: (207) 287-2431

How do I find a licensed arborist to remove browntail moth webs?

- The Maine Forest Service maintains a list of licensed Arborists willing to clip nests https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm
- If you already have a relationship with a licensed arborist reach out to them in September to line them up for winter web removal.
- An Arborist for hire must be state licensed and insured.
- For more information on hiring an arborist see: <https://www.maine.gov/dacf/php/arborist/index.shtml>
- Contact: Maine Arborist Program (207) 287-3891

How do I determine if I have a high browntail moth population and what should I do?

- Conduct a population assessment to determine how many webs are in the trees on your property. This should happen as early as possible in the dormant season beginning in October, however it is often difficult to spot webs in oaks until December. A guide to surveying for webs is available online here https://www.maine.gov/dacf/mfs/forest_health/documents/browntail_moth_citizen_science_survey.pdf
- Contractors (licensed pesticide applicators or arborists) should be lined up as soon as a decision is made to contract for help.
- Web clipping should happen during the dormant season, generally October through Mid-April
- Caterpillar treatments should happen in early spring, generally before the end of May.
- The best time to manage browntail moth is when its populations are low.
- Contact: Maine Forest Service: (207) 287-2431

I can't afford to treat my trees, what can I do?

- Clip and destroy any webs that are within reach during the dormant season (October through Mid-April)
- Talk to your neighbors, they may be willing/able to help if they are already treating their trees.
- Tree removal is an option to manage browntail moth, but the benefits of mature trees should be weighed against removal; removals can be followed by the planting of non-host trees.
- Follow precautions to reduce exposure to browntail moth hairs.
- Contact: Maine Forest Service: (207) 287-2431

My neighbor won't treat their trees. Should I even consider treating mine?

- Yes, however, consider the following:
 - Treating browntail moth in your yard will not impact the overall population. It can provide some relief in the treated areas for normal outdoor activities
 - Adult browntail moths are strong flyers and may find your treated trees from long distances, not just nearby untreated properties
 - Understand that there are many reasons people may choose not to treat browntail moth with pesticides. Having a conversation may help come up with an approach that works for the whole neighborhood.
 - Contact: Maine Forest Service: (207) 287-2431

Is tree removal recommended to help manage BTM?

- If there are trees that can serve as a host for browntail on your property removal and planting a non-host tree such as a red or sugar maple is a viable option.
- Tree removal can be successful year-round but is best performed from August to April.
- Benefits of mature trees should be weighed against removal.
- Contact: Maine Forest Service: (207) 287-2431

Does killing browntail moth adults (moths) help with management?

- Moths found on buildings and in light traps are primarily males. Killing males is unlikely to reduce the next generation of browntail moth.
- Using a bug-zapper or other device to kill insects attracted to lights is not recommended. It will kill insects that might help control browntail moth and other pests as well as browntail moths. It will also attract more browntail moths to the area. Females attracted to an area by lights tend to hang out in host tree foliage and are not captured in high numbers with these methods.
- Contact: Maine Forest Service: (207) 287-2431

How do I find a licensed pesticide applicator?

- The Maine Forest Service maintains a list of licensed pesticide applicators willing to treat trees: https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm
- A pesticide applicator must be properly licensed and insured to treat your property.
- Contacting a licensed pesticide applicator should be done as soon as you think you'll need one as there are a limited number of licensed applicators willing to treat for browntail moth
- Contact: Board of Pesticide Control: (207) 287-2731

Who do I contact for more information on browntail moth management?

- The Maine Forest Service or Board of Pesticide control can answer questions related to BTM management.
- Maine Forest Service: (207) 287-2431
- Board of Pesticide Control: (207) 287-2731

Pesticide Options

Should I use pesticides near marine waters?

- First and most important the Board of Pesticides Control strongly urges homeowners to hire a licensed commercial pesticide applicator to help them with controlling the browntail moth. Applications near water are likely to drift into the water, which is dangerous to the environment, and a violation of the law.
- The least toxic control method is to prune browntail moth nests during the months of October to April.
- If a pesticide product is going to be used, the distance from the high-water mark will determine which products can be used.
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

What pesticides and application methods can I use 0 to 25 feet from the high-water mark?

- The Board of Pesticides Control recommends hiring a licensed commercial applicator to treat for the browntail moth. Licensed commercial applicators have been trained on which pesticide products, application methods, and timing for treatments are appropriate for use on the browntail moth.
- There are different rules/regulations for licensed commercial applicators and homeowners. The rules/regulations can be found at <https://www.maine.gov/dacf/php/pesticides/laws.shtml>, specifically in Chapter 29, **Standards for Water Quality Protection**.
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

What pesticides and application methods can I use 25 to 50 feet for marine waters? The distance is always measured from the high-water mark:

- There are different rules/regulations for licensed commercial applicators and homeowners.
- Homeowners can use approved biological products that have active ingredients of Spinosad, BtK, and Azadirachtin. These products can be applied with powered equipment. The information listed on the pesticide label must be followed, IT IS THE LAW.
- Licensed commercial applicators using non-powered equipment can apply products allowed in the policies found at <https://www.maine.gov/dacf/php/pesticides/laws.shtml>
- Soil and tree injections are approved for appropriate pesticides.
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

What pesticides and application methods can I use 50 to 250 feet from the high-water mark:

- Products allowed by the Board of Pesticides Control's policies currently can have active ingredients of Acetamiprid, Bifenthrin, Clothianidin, Deltamethrin, Diflubenzuron, Dinotefuran, Fluralinate, Imidacloprid, Spinosad, BtK, and Azadirachtin. The Maine Forest Service does not recommend the use of products whose sole active ingredient is imidacloprid to control browntail moth.
- Applications of products approved for use for 50 to 250 feet of marine waters high water mark can be made using hydraulic handheld and air-assisted equipment.
- Applications must be directed away from the water
- Applications must be made when the wind is greater than 2 MPH and less than 15 MPH (label may have further restrictions). The BPC recommends not spraying pesticide products if the wind is greater than 10 mph.
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

What pesticides and application methods can I use past 250 feet from the high-water mark:

- Applications of any pesticide registered in Maine for use on trees or ornamental plants following Board of Pesticide Control regulations and the pesticide label restrictions. If the trees or plants are fruit bearing the pesticide must also be specifically labeled for use on those fruits.
- The pesticide label is the law; applications must be made in accordance with label instructions.
- The site must always be listed on the label (in this case, ornamental trees or fruit trees) Tree and soil injections can be applied from the high-water mark to 250 feet or more.
- The products used must be approved for use on trees or ornamental plants. This information can be found on the pesticide label. If you have questions or for more information, please contact the Board of Pesticide Control by **visiting their web site: thinkfirstspraylast.org or by calling (207) 287-2731**

What pesticides can I use on fruit trees that are lower risk for pollinators or human consumption?

- If the label has fruit trees listed under site section it can be applied. The EPA determines whether or not a pesticide is allowed on food crops; if there is too much risk, the label will not list for fruit trees.
- If the pesticide has the Bee Label, there is a higher risk to pollinators.



PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon
application site for specific use restrictions and instructions to protect bees and
other insect pollinators.

in the Directions for Use for each

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or

- The applicator must read and follow the label, it is the law.
- Careful attention to the environmental warnings found on the label must be followed.
- For additional information, contact the Board of Pesticides Control at (207) 287-2731 or thinkfirstspraylast.org

What is the timing for spraying for browntail moth caterpillars?

- Refer to the pesticide label, some labels restrict applications to certain life stages.
- Contact the Maine Forest Service or visit their website:
https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm

What method of pesticide application is best?

- The best method of browntail moth management depends on the situation.
- Pruning to remove the nests is the preferred control method.
- Should you decide to use pesticides, foliar applications, tree and soil injections can be made using the products allowed by policy. It is recommended that you employ a licensed commercial applicator, or consult the BPC or MFS websites.
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org
- Contact: Maine Forest Service: (207) 287-2431 for a list of arborists or visit
https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm

How do these pesticides work? (What is the mode of action of the pesticides used for browntail moth?)

- This depends on the product that is being applied. Pesticides used for browntail moth work by variable methods. Some products kill on contact, while others must be ingested by the caterpillar. Products that must be ingested may require time (even weeks) to provide control.
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

What is the best pesticide to use for browntail moth?

- While a pesticide product may have been tested for efficacy on similar species, due to the localized nature of browntail moth impact in Maine, there has been limited efficacy testing for browntail moth.
- If the site or pest is listed on the label then the product has been tested by the EPA for efficacy/safety on that site or against that pest.
- Contact: Maine Forest Service (207) 287-2431
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

What are the impacts on birds, lobsters, bees, pets, and people?

- The label will have information on impacts to non-target organisms and the environment. The Board of Pesticides control can provide assistance in understanding the label.

- The pesticide products applied must follow the pesticide label to minimize risk. The BPC strongly urges homeowners to use a licensed commercial pesticide applicator.
- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

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- Contact: Board of Pesticides Control (207) 287-2731, thinkfirstspraylast.org

Who do I contact for more information on pesticide choice?

- Board of Pesticides Control (207) 287-2731 thinkfirstspraylast.org can provide information on the active ingredients and their potential impacts.

Browntail Moth Health Concerns & Reducing Toxic Hair Exposure

Health Concerns

What are the symptoms of browntail moth toxin exposure?

- A skin rash on any part of your body that was exposed. The rash tends to be red, bumpy, and itchy. It can cause discomfort for hours to weeks.
- Respiratory issues such as breathing difficulty can occur if the browntail moth hairs are inhaled.
- If you are having trouble breathing, swallowing, or swelling of your mouth, tongue, or throat, call 9-1-1.

How do I treat the rash?

- Mild rashes can be treated at home with:
 - A cool bath with baking soda or Aveeno Oatmeal Bath
 - Hydrocortisone cream, such as Cortaid, sparingly to the itchiest areas
 - Calamine or caladryl lotion
- If home remedies are not working, see your healthcare provider. There are medications that your healthcare provider might recommend.
- Be careful not to apply any creams or lotions to places where young children may rub them into their eyes or mouth.

How do I treat respiratory symptoms?

- You can take allergy medications for mild respiratory symptoms (e.g. runny nose, sneezing).
- If you have asthma, an inhaler may reduce symptoms.
- Call your healthcare provider if your symptoms continue.
- If you have difficulty breathing, swelling of the mouth, tongue or throat, call 9-1-1.

Is the rash contagious?

- You cannot “catch” the rash from another person like you can a cold. The hairs need to come in contact with your skin, mouth, throat, or respiratory tract for symptoms to appear.

Is it safe to eat food grown in infested areas?

- If you suspect that a fruit or vegetable is contaminated with browntail moth caterpillar hairs, you should not eat the fruit or vegetable unless it can be peeled and/or cleaned to completely remove the hairs.
- Leafy vegetables may be more difficult to clean and may have a greater chance of retaining the caterpillar hairs, even after the washing process.
- Ingestion of the hairs is a concern because of possible allergic reactions in the mouth, throat, and esophagus, as well as the possibility of breathing in the hairs, which could cause respiratory issues.

Can I build up a tolerance to the browntail moth caterpillar hair toxin?

- There is not enough research available on browntail moth caterpillar hair toxin to know if individuals can build up a tolerance to the toxin.

Will the reaction to the hairs get worse each time I am exposed?

- There is not enough research on browntail available on browntail moth caterpillar hair toxin to know if the reactions will increase in severity each time an individual is exposed.

Who can I contact for more information on browntail moth health concerns?

- You can contact the Maine Center for Disease Control and Prevention (Maine CDC) for more information at 1-800-821-5821.

Reducing Toxic Hair Exposure

When is the greatest risk of getting the rash?

- The greatest risk for exposure to the toxic hairs is between April and July.
- Caterpillars, shed skins, and cocoons all have toxic hairs.
- The toxin is stable in the environment for one to three years and hairs can become airborne at any time.
- It is important to take precautions year-round in heavily infested areas.

How do I avoid exposure to the browntail moth toxic hairs?

- When working in heavily infested areas, wear proper protective equipment to reduce exposure including:

- Long sleeves
- Long pants
- Goggles
- Dust mask/respirator
- Hat
- Disposable coveralls
- Avoid heavily infested areas between April and August, don't use leaf blowers or lawnmowers on dry days in these areas
- Using pre-contact poison ivy wipes can help minimize hairs sticking into exposed skin
- Do yardwork on wet days, which decreases the likelihood that the hairs will become airborne.
- Make sure to use a HEPA filter on a wet/dry vacuum to decrease the likelihood that the hairs will become airborne.
- Do not dry laundry outside in infested areas.

I covered up and I still got a rash. What else can I do?

- Take a cool shower after working in an infested area. This will help wash away any hairs on your body.
- Consider using disposable coveralls for outside work. Take care in removing protective clothing.

Who can I contact for more information on reducing exposures to browntail moth toxic hairs?

- You can contact the Maine Center for Disease Control and Prevention (Maine CDC) for more information at 1-800-821-5821.

Public policy/Economic impacts

Why won't the state eradicate Browntail Moth?

- Browntail moth is not a pest that can be eradicated. It has been in the United States for more than 100 years. Populations at low levels can escape notice. Browntail moth travels readily on vehicles, plants and other carriers and the adult moths are good flyers.
- Contact: Maine Forest Service: (207) 287-2431

What is the State doing?

- The state agencies are committed to coordinating within state government and with others outside to respond to this issue. However, the responsibility for making decisions and raising necessary resources for pest control projects is most appropriately handled at the local or individual level.
- The Maine CDC works to provide information to health care providers and the public about the health risks from browntail moth.
- The Maine Forest Service works with cooperators to develop tools for management and provide the technical support necessary to respond to towns, businesses and private individuals to manage this and other pest situations.
- The Board of Pesticides Control is committed to providing the information needed to support the proper use of pesticides.

Is the state doing anything to help landowners/towns who have BTM?

- Currently, the state is supporting and conducting research, tracking infestations, supporting public nuisance declarations and providing education to communities in public presentations.
- For information about whether a public information session is scheduled in your area, contact your town office.
- Contact: Maine Forest Service: (207) 287-2431

Who do I contact for more information about economic impacts and policy questions?

- You can contact your state legislator or town councilor to learn about pending initiatives at the state and local level https://www.maine.gov/portal/government/edemocracy/voter_lookup.php