

## Integrated Pest Management

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As a woodland owner, you know every decision counts. From the trees you plant to the methods you use to harvest them, your stewardship builds a living legacy. So when **invasive and destructive species** threaten your woods, you want a solution that protects your trees now *and* preserves the health of your forest for the future.

That's the goal of **Integrated Pest Management**. IPM is a system of methods and practices that controls pests long-term in an economically and environmentally sound way. Ideally, IPM is integrated with the information and recommendations in your forest management plan. It's also part of the American Forest Foundation's 2010-2015 Standards of Sustainability for Forest Certification. *Photo: Andrew Koeser, International Society of Arboriculture, Bugwood.org*

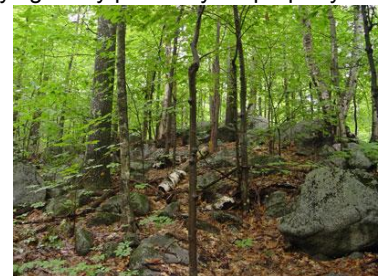


## What is IPM?

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**Integrated pest management** isn't a single solution to your pest problems. It's a process that combines common-sense methods and practices to provide long-term, economical pest control, all while keeping your property, family and the environment safe. Your IPM process is as unique as your woods, but it basically follows these steps:

1. **Preventing pests.** Preventing an infestation is easier than controlling one, so start by making your woods a tough place for pests to live. If you plant, choose more resistant trees if you can. Keep them strong and healthy by spacing them properly and thinning at optimum intervals.
2. **Knowing your enemy.** Not every weed or insect is harmful, and some can be beneficial. So it's important to monitor and identify what's living in your woods. Keep an eye out for signs of tree decline or death, and use traps that target specific species if you suspect they may be present in your stands. And if you do find a pest in your midst, learn more about it (see Resources section).
3. **Setting limits.** Spotting a single pest doesn't necessarily mean you have a problem, and destroying every pest on your property may not be possible or safe. Part of IPM is asking: How many pests would it take to threaten the health and economic viability of my woods? That number is your "action threshold." If your forest's pest population is close to or exceeds this threshold, then it's time to fight back.
4. **Taking action.** Once you know what you're up against, you can choose from a variety of pest control methods. In IPM, you use effective but less risky methods first, such as traps, mechanical methods or beneficial organisms. Careful and targeted use of pesticides and other chemicals can also be part of the solution. Spraying a non-specific pesticide over a large area is a last resort.



*Photo: Maine Natural Areas Program*

## Putting IPM into Practice

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### I need to take action now. How do I put IPM into practice?

You've inspected your woods, read up on your pests, set your limits and tried prevention. If you still have a pest problem that threatens your forest, these IPM control methods can help you fight back.

Every forest is different, as is every pest problem. When you need to battle unwanted guests, integrated pest management lets you choose the combination of pest control methods that's right for your woods, your pocket book and your goals.

These methods fall under four categories: cultural, mechanical, biological and chemical.



**Cultural** methods include selecting pest-tolerant trees, watering and fertilizing trees for optimal health, thinning your woods periodically, according to a forest management plan. If you're fighting an existing infestation, this may mean removing affected trees or susceptible tree species to stop the infestation from spreading. *Photo: Andy Shultz, Maine Forest Service*

**Mechanical** methods focus on physically removing pests, via traps (for insects and pest animals) or weeding (for invasive plants). You may also choose to install barriers around trees to keep pests away. *Photo: Pleasant Valley Conservancy*



**Biological** strategies use natural predators to control pest populations. Birds, bats, ladybugs, certain beetles, predatory spiders and mites, and parasitic wasps are just some of your friends in the fight against pests. Boosting the beneficial bugs and insect-eating animals already living in your forest—or intentionally introducing them—will beef up your pest control efforts.

*Photo: Whitney Cranshaw, Colorado State University, Bugwood.org*

**Chemical** controls can include natural and synthetic repellents and pheromones along with more traditional pesticides. Repellents and pheromones target insects and larger animal pests. Pheromones—the chemicals pests use to communicate with each other—can be used to lure pests into traps or disrupt their mating behavior. Both repellents and pheromones are commercially available. With pesticides, including insecticides, fungicides, rodenticides, herbicides, and other pest-killing products, caution is the key. Find the most effective and targeted product for your specific pest, and follow all label directions carefully when applying it. When using chemical controls, some days are better for spraying than others. Pesticides and herbicides are most effective when temperatures are above 60 degrees, and days with little or no wind are safest, because the chemicals won't drift to other plants. If applying pesticides to properties other than your own, a commercial pesticide applicator license is required. See [www.thinkfirstspraylast.org](http://www.thinkfirstspraylast.org) or call 207-287-2731 for more information about pesticides and licensing requirements.



*Photo: USDA Forest Service, Bugwood.org*

### What if I need help choosing the best method for my woods?

Some of these methods may be things you're already doing on your land, but some may be new to you. If you want more information or professional guidance on making IPM work for you, help is right around the corner.

## Resources

Whether integrated pest management is a new concept for you or exactly what you've been doing all along, you may want help putting it into practice on your property, especially if you've got a pest problem to handle.

- **Maine Department of Agriculture, Conservation and Forestry:**
  - **Maine Forest Service:** <http://www.maine.gov/dacf/mfs/index.shtml> (207) 287-2791 or within Maine only 1-800-367-0223 (for information about woodland stewardship and forest management in general)
  - **Maine Natural Areas Program:** <http://www.maine.gov/dacf/mnap/> (207) 287-8046 (for information on identifying and managing invasive plants)
  - **Maine Board of Pesticides Control:** <http://www.maine.gov/dacf/php/pesticides/index.shtml> (207) 287-2731
- **University of Maine Cooperative Extension:** <http://extension.umaine.edu/ipm/>
  - (207) 287-2791 or within Maine only 1-800-367-0223 (for pest identification and information on managing pests)
- **Maine Tree Farm Program:** <https://www.treefarmssystem.org/maine> (for forest management tools, information and certification)
- **Northeastern IPM Center:** <https://www.northeastipm.org/index.cfm> (on-line resources for pest identification and management)



*Adapted from: American Tree Farm System: <https://www.treefarmssystem.org/integrated-pest-management>*

**This Message Brought to You by...**The Maine Integrated Pest Management (IPM) Council – an 11-member panel established by state legislature to identify, promote and enhance the use of IPM practices that reduce or minimize harmful environmental and human health impacts of pesticides and other pest management tactics. **Find out more at** [www.maine.gov/ipmcouncil](http://www.maine.gov/ipmcouncil) or contact: Kathy Murray, 207-287-7616 [kathy.murray@maine.gov](mailto:kathy.murray@maine.gov) or Jim Dill, 800-287-0279, [james.dill@maine.edu](mailto:james.dill@maine.edu)

