

Winter Moth in the Northeast

Infestations threaten trees in Maine and other States

U.S. Department of Agriculture
Forest Service
Northeastern Area State and Private Forestry



Description: Winter moth, an invasive European insect, was accidentally introduced to Nova Scotia in the 1960s and to the Pacific Northwest in the 1970s. When winter moth populations are high, they can completely strip the leaves from many species of hardwood trees, which slows their growth and eventually kills them. Oaks are the preferred hosts. Winter moth was discovered in Massachusetts in the late 1990s. Since then, the moth has been found in Connecticut, New Hampshire, New York, Rhode Island, and, most recently, along the coast of Maine.

Key Issues:

- The winter moth threatens hardwood trees in both natural and urban forests. It is likely to spread across the Northeast and Mid-Atlantic, causing defoliation, tree dieback, and mortality.
- Defoliation was seen in coastal Maine for the first time in 2012 and has been seen every year since. Defoliation continues to occur in Massachusetts and Rhode Island.
- We know little about how people might be spreading the insect. It spends part of its life in the soil, so the movement of nursery stock may be an important pathway.
- Introducing and establishing the parasitic fly *Cyzenis albicans* may offer long-term help in managing winter moth populations and their spread, as it has in the Pacific Northwest and Nova Scotia.
- A sustained effort is needed over the next 5 years to establish biological control agents such as the parasitic fly.

Accomplishments:

- The U.S. Forest Service, USDA Animal and Plant Health Inspection Service (APHIS), and the University of Massachusetts have carried out a joint 5-year winter moth biological control plan.
- *C. albicans* has been released at 32 sites stretching from southeast Connecticut to central Maine; the fly is now established at 11 sites (figure 1).
- Winter moth parasitism by *C. albicans* at these sites has steadily increased. At one site in Wellesley, MA, parasitism has exceeded 40 percent over an area 2 miles in diameter, and winter moth populations have declined dramatically at the center of this area.
- Continued Forest Service and APHIS support will permit parasitic fly releases in more States.
- Northeastern Area State and Private Forestry (NA S&PF) Forest Health Protection specialists continued monitoring along coastal Maine to assess the impacts of winter moth and the effectiveness of the parasitic fly.
- NA S&PF forest health specialists cooperated with the Universities of New Hampshire and Massachusetts to conduct and publish results of evaluations of the adverse effects of winter moth on individual tree growth as well as stand-level impacts.

Budget History: The Forest Service and APHIS continue to support efforts to manage winter moth, most recently with the focus of resources on a 5-year biological control program.

Winter Moth Funds (Dollars, thousands)					
Source	FY2011	FY2012	FY2013	FY2014	FY2015
Forest Service	\$200	\$0	\$100	\$100	\$100
APHIS	75	123	83	94	94
Totals	\$275	\$123	\$183	\$194	\$194

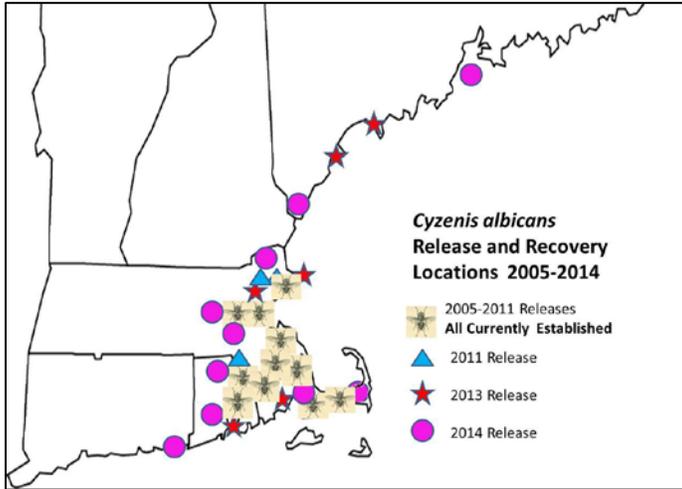


Figure 1.—*Cyzenis albicans* release and recovery sites in New England from 2005–2014.

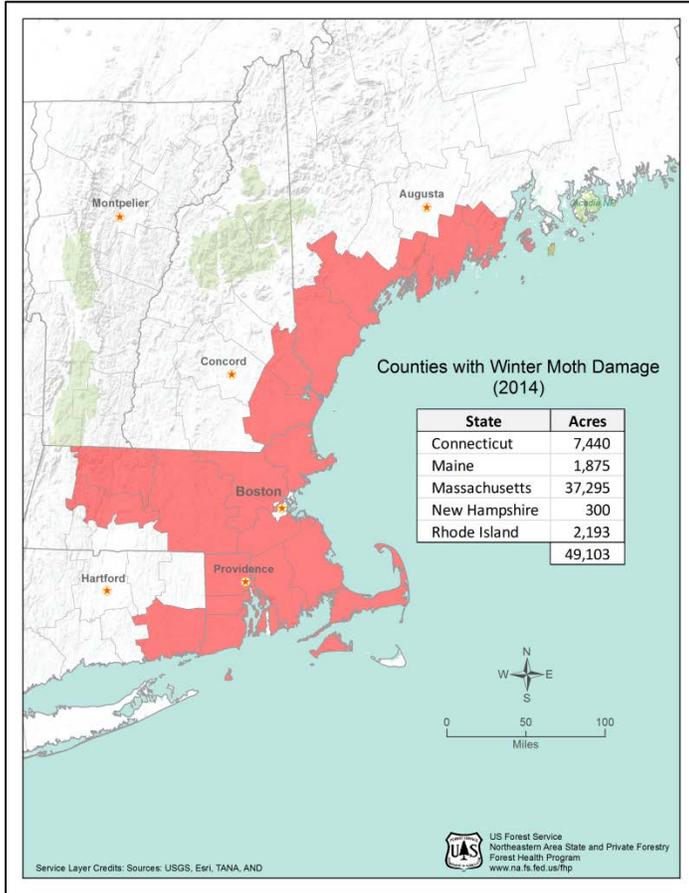


Figure 2.—In 2014, damage from winter moth was reported in five States, including first-time reports in Connecticut and New Hampshire.

Future Direction:

- Continue to produce and release the biological control agent *C. albicans* in affected States.
- Continue aerial detection surveys to further detect and track winter moth damage.
- Continue to develop and provide winter moth information products to all partners.
- Conduct a systematic survey for winter moth across the region.

Tony L. Ferguson, Director
11 Campus Blvd., Suite 200
Newtown Square, PA 19073
610-557-4103 (4177 FAX)
tferguson@fs.fed.us

www.na.fs.fed.us

Ralph Crawford, Asst. Director
11 Campus Blvd., Suite 200
Newtown Square, PA 19073
610-557-4145 (4136 FAX)
rcrawford01@fs.fed.us

Noel F. Schneeberger
Forest Health Program Leader
11 Campus Blvd., Suite 200
Newtown Square, PA 19073
610.557.4121 (4136 FAX)
nschneeberger@fs.fed.us



3/18/15