



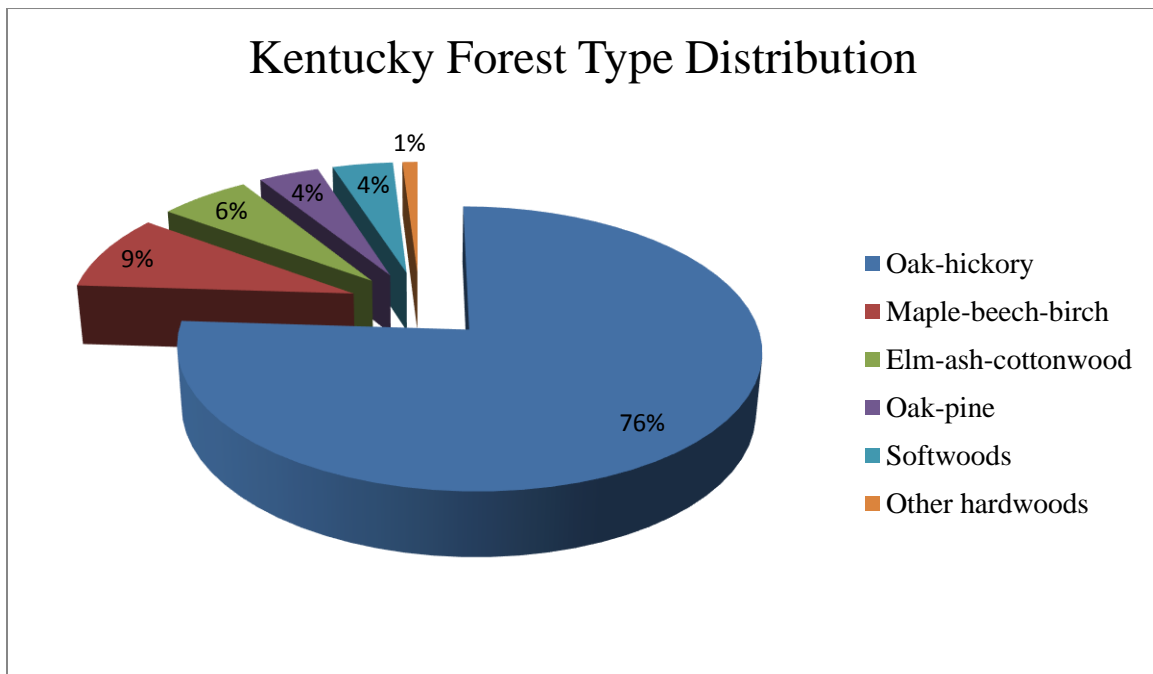
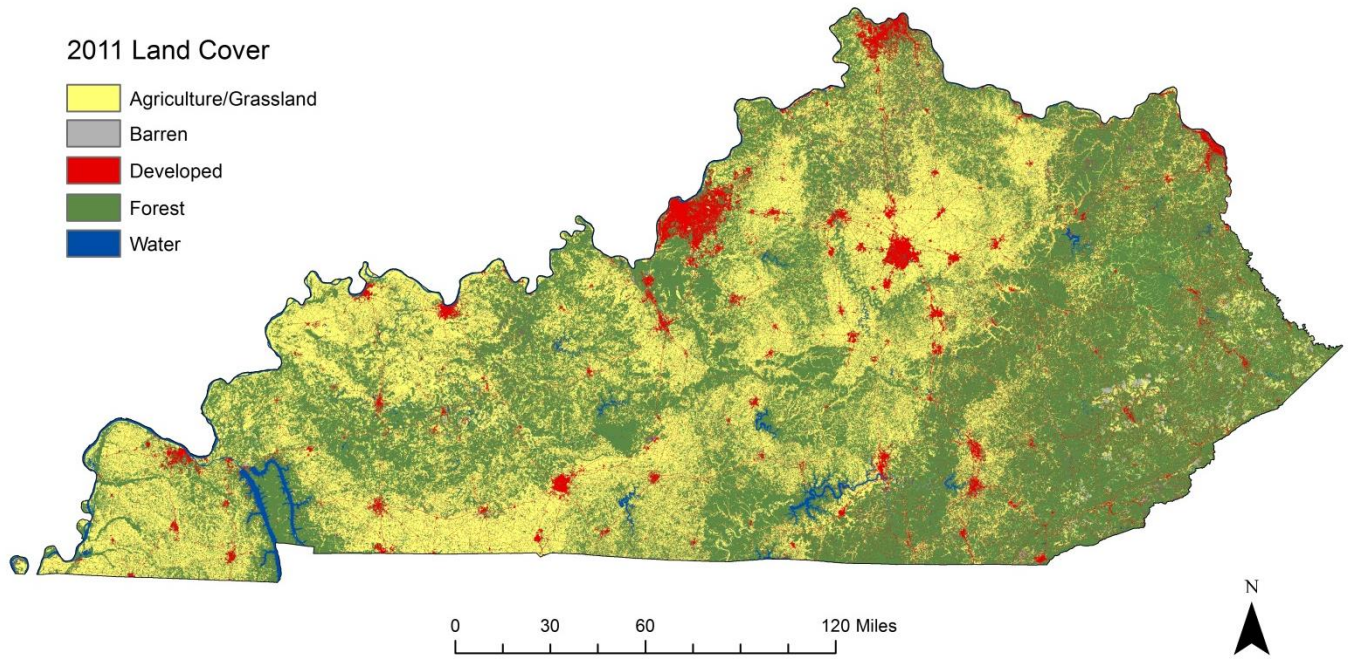
Kentucky

Forest Health Highlights 2016



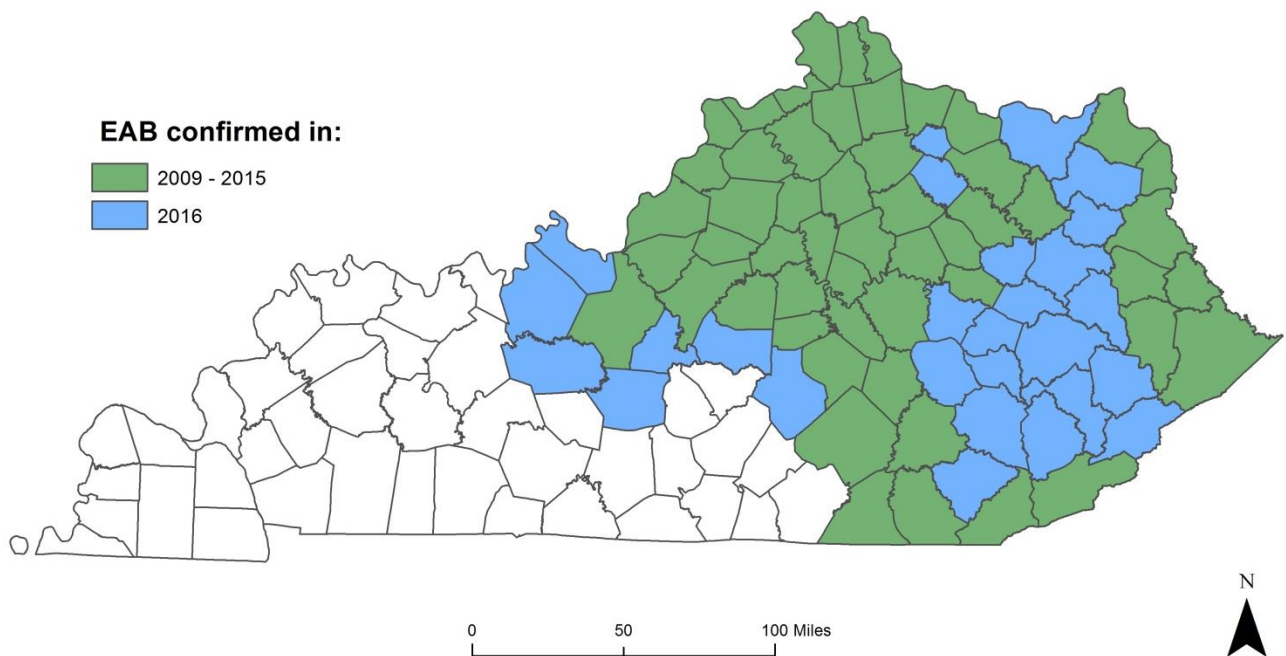
The Resource

Kentucky's forests cover an estimated 12.4 million acres, nearly 49% of the state's land area. The Cumberland Plateau and the Appalachians in the eastern part of the state represent the most heavily forested areas, with forests covering more than 80% of the land area in many of these counties. The majority of the state's forested land (88.5%) is privately owned. Kentucky's forests are prized for their scenic beauty, supporting tourism and outdoor recreation and providing wildlife habitat from the Appalachian Mountains in the east to the Mississippi Valley in the west. The predominant forest type in Kentucky is oak-hickory, covering nearly 9.5 million acres (76% of the forested land). The most common species based on number of trees across all forest land is red maple, followed by sugar maple and yellow-poplar.



Emerald Ash Borer

Infestations of the emerald ash borer (EAB) were first confirmed in Kentucky in 2009. An EAB quarantine of 20 counties located in the region between Louisville, Lexington, and northern Kentucky was initially established. In the following years, additional EAB infestations were found in nearby counties and the state quarantine was expanded. In April of 2014, the county quarantine system was rescinded and the entire state was added to the Animal and Plant Health Inspection Service (APHIS) list of regulated areas. Currently, EAB has been confirmed in 80 Kentucky counties. In 2016, EAB was confirmed in 27 new counties: Breathitt, Breckinridge, Carter, Casey, Clay, Elliott, Estill, Grayson, Hart, Jackson, Knott, Knox, Larue, Lee, Leslie, Letcher, Lewis, Magoffin, Marion, Meade, Menifee, Morgan, Nicholas, Owsley, Perry, Robertson and Wolfe. Though the majority of new infestations were found in the eastern third of the state, infestations in Meade, Breckinridge and Grayson Counties confirm that EAB is slowly spreading west.

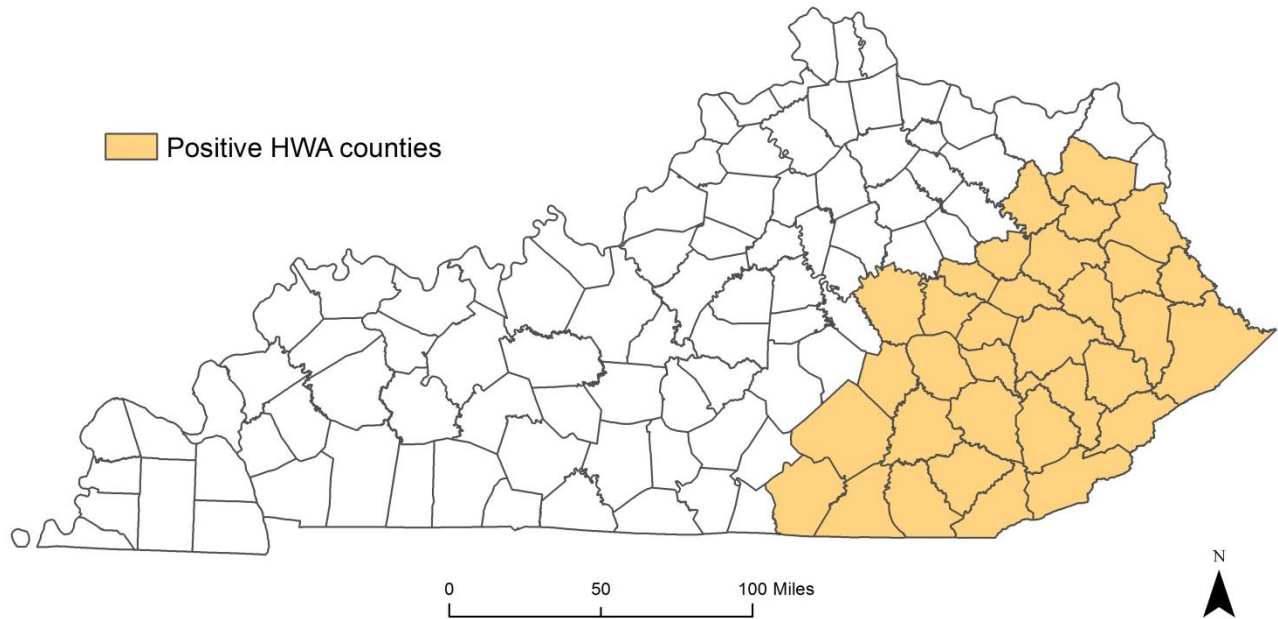




Hemlock Woolly Adelgid

Hemlock woolly adelgid (HWA) was first discovered in Kentucky in 2006. Approximately 98% of Kentucky's hemlocks are found in the eastern one-third of the state. In this region, infestations currently occur in 33 counties. The counties include Bell, Breathitt, Carter, Clay, Elliott, Estill, Floyd, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Madison, Magoffin, Martin, McCreary, Menifee, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Rowan, Wayne, Whitley and Wolfe.

Kentucky Division of Forestry (KDF) has a crew responsible for treating hemlocks across various ownership boundaries including non-profit, state and federal lands. KDF has treated hemlocks in HWA-priority areas on land including Kentucky State Park property (Carter Caves State Resort Park, Natural Bridge State Resort Park and Cumberland Falls State Resort Park), Daniel Boone National Forest districts, Nature Preserve Commission property (Bad Branch Falls and Blanton Forest) and Eastern Kentucky University property (Lilley Cornett Woods). In 2016, KDF chemically treated over 24,000 hemlocks.

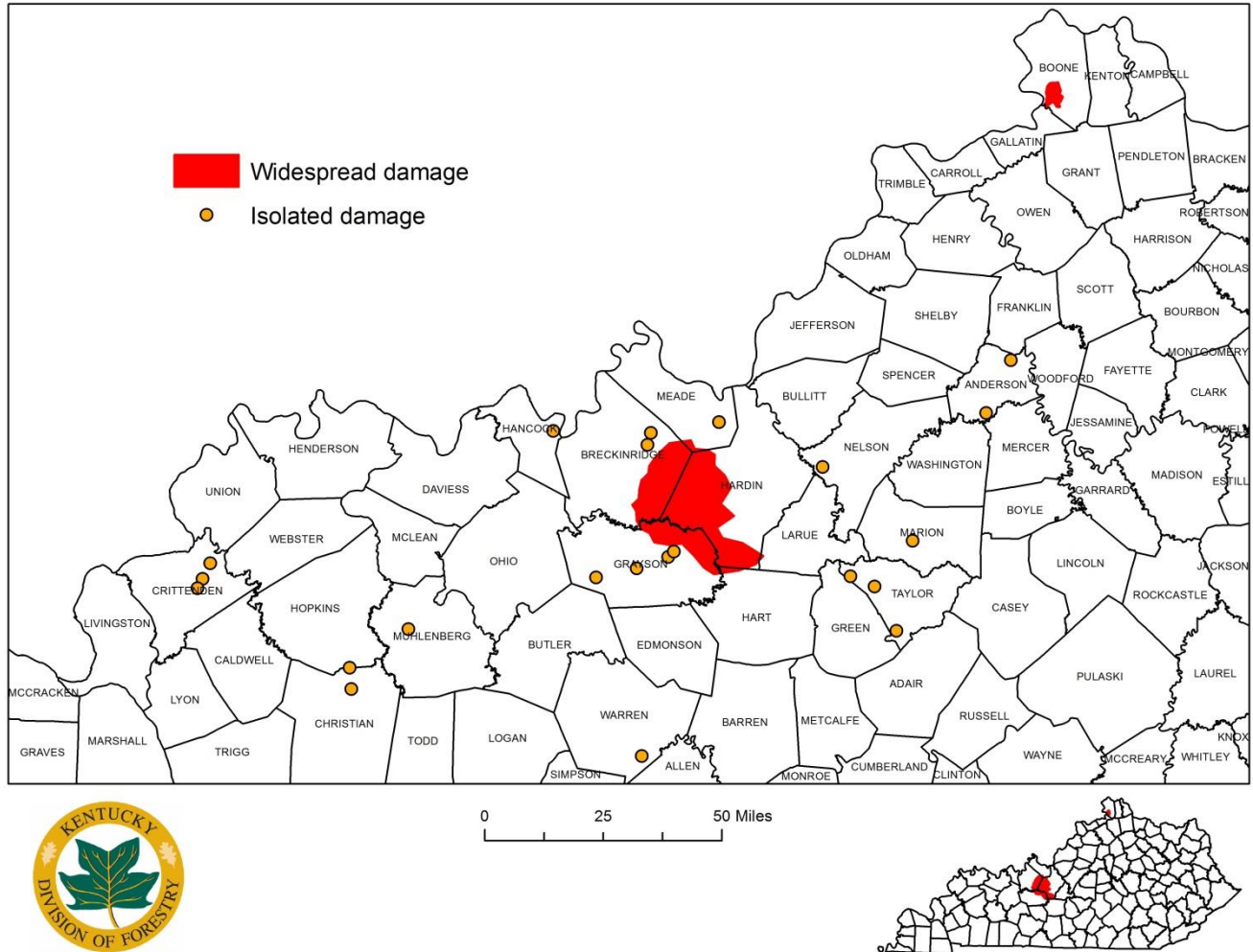


Shingle Oak Skeletonizers

A complex of moth caterpillar species, collectively termed shingle oak skeletonizers, were found feeding on shingle oak trees across portions of central and western Kentucky. Larger scale damage and defoliation occurred in two general areas, while isolated trees with lesser damage were reported across parts of western Kentucky.

Caterpillars feeding on the backside of shingle oak leaves caused brown spotting. Leaves on heavily infested trees were often completely skeletonized, resulting in a noticeable brown canopy. This heavy feeding eventually caused near or complete defoliation.

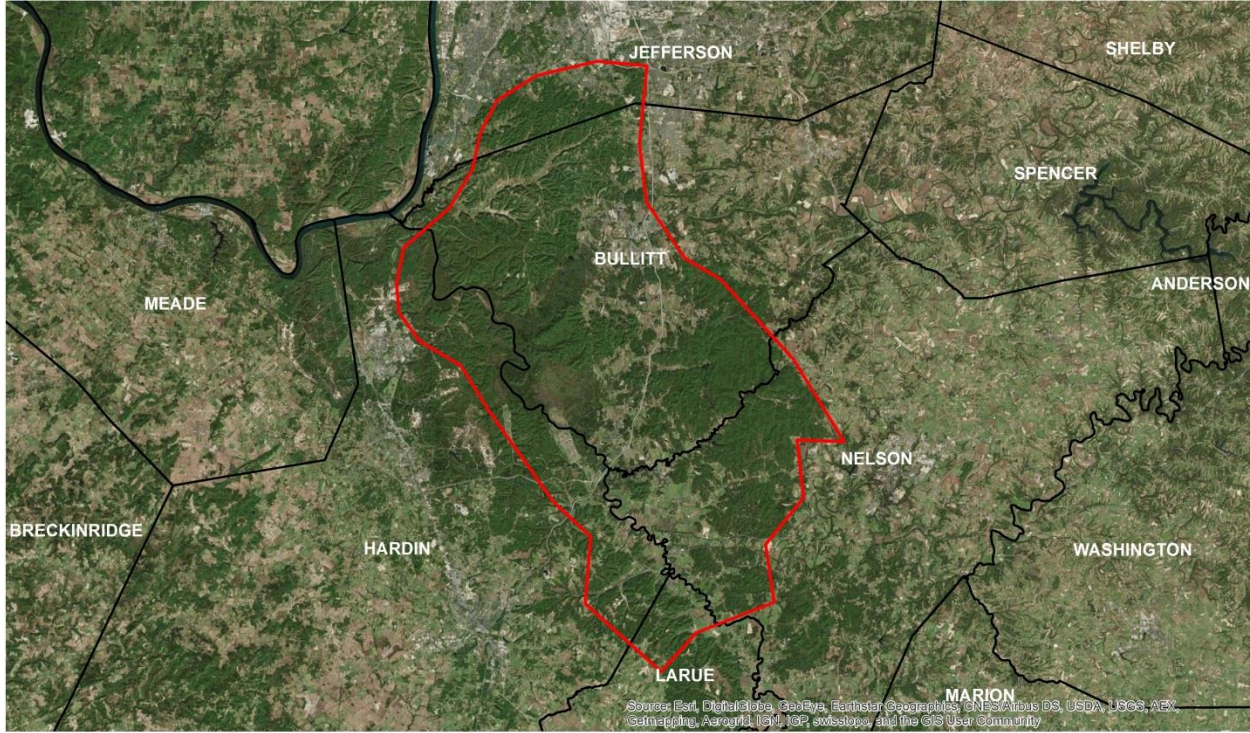





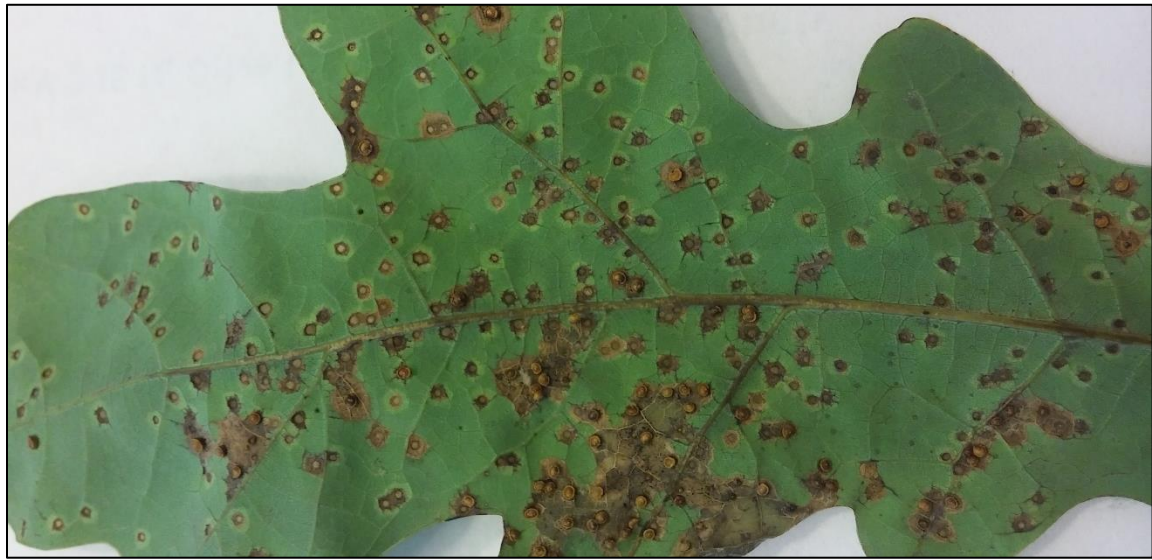
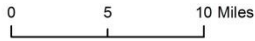
Jumping Oak Gall

A regional outbreak of jumping oak gall occurred across five counties in the Knobs Region of central Kentucky. Large numbers of galls on individual leaves caused leaf browning and scorch-like symptoms. Though infestations caused partial defoliation, otherwise healthy trees should fully recover from the damage.

Tiny stingless wasps place eggs in expanding white oak leaves during spring which initiates the development of pinhead sized leaf galls. Within each gall is a single wasp larva that feeds on the inner lining of the gall. Eventually, the galls fall to the ground, where the pupae will overwinter until they emerge the following spring. The galls, or leaf scars after the galls have fallen off, can be found on the backside of leaves for positive identification.

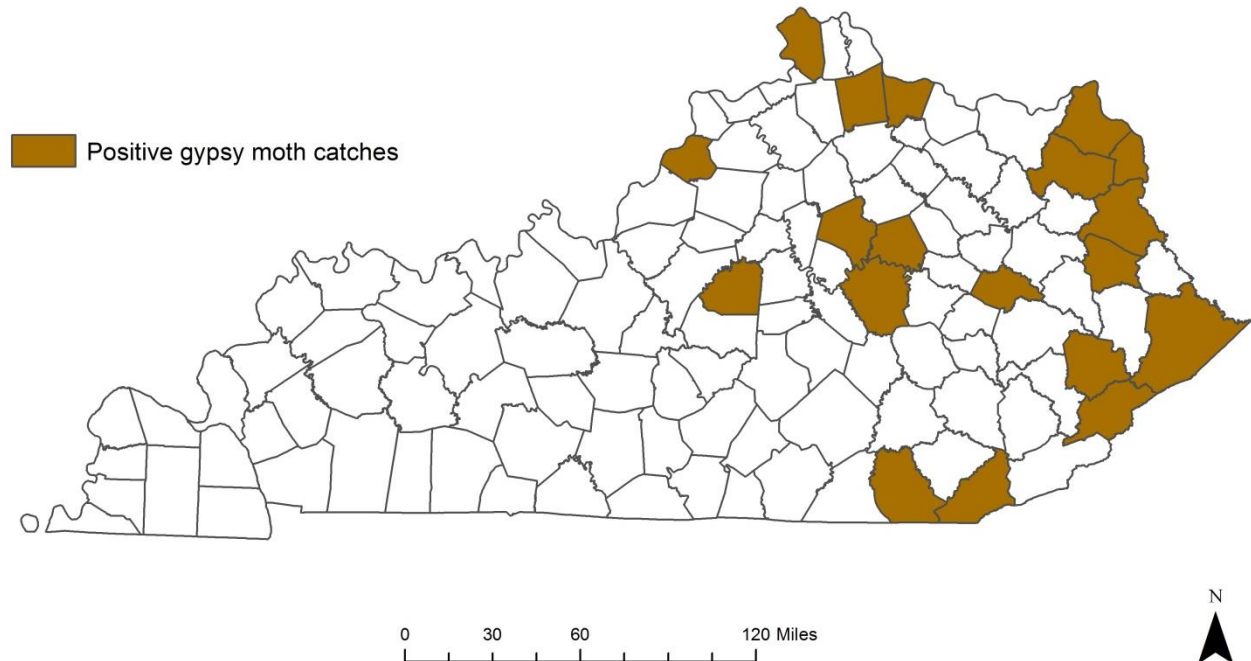


 Jumping oak gall damage area



Gypsy moth

Gypsy moth is not yet established in Kentucky. Kentucky's Office of the State Entomologist trapped for gypsy moth through USDA APHIS and Slow the Spread programs. Traps were placed in 97 counties across the state with 19 counties having positive traps. In total 68 moths were trapped, with 42 coming from traps in Pike County.



Thousand Cankers Disease and the Walnut Twig Beetle

KDF along with Kentucky's Office of the State Entomologist placed 36 funnel traps in 16 counties across the state to trap for the walnut twig beetle associated with thousand cankers disease (TCD). Kentucky is a neighbor to four states that have confirmed TCD infestations (Indiana, Ohio, Tennessee and Virginia), but to date it has not been found in Kentucky. Trapping for the walnut twig beetle will continue in 2017.



Asian Longhorned Beetle

The Asian longhorned beetle (ALB) continues to be a watch out pest for Kentucky. Though ALB has not been found in Kentucky, it was discovered in 2011 in Clermont County, Ohio, which is only 10 miles from the Kentucky border. KDF works with various agencies to educate the public on ALB identification and signs of infestation.



Sudden Oak Death

Kentucky's Office of the State Entomologist collected foliar samples for sudden oak death in 31 nurseries and collected an additional nine water baiting samples from selected nurseries. Tests are still ongoing but so far no positive samples have been confirmed.

Yellow-Poplar Weevil

In 2015 eastern Kentucky experienced an outbreak of the yellow-poplar weevil. Two generations of this native pest cause damage to yellow-poplar trees. In 2015, damage from the second generation was especially severe and noticeable in mid-summer. After overwintering in the leaf litter, this same generation caused feeding damage to newly emerging leaves in the spring of 2016. However, the second generation of 2016 was not as abundant as the previous year and therefore little to no damage was reported except in isolated areas of southeastern Kentucky.



Disease Overview

There were no unusual occurrences of pathogens in 2016. Common diseases reported were anthracnose on oak and maple, fire blight on landscape crabapple and pear, and bacterial leaf scorch on oak and sycamore.

Weather

Whether it be from hail, ice, or strong winds, typically a few storms a year cause forest damage in Kentucky. One such example occurred in May when a storm with golf ball sized hail

completely defoliated nearly all trees within its path. The damage occurred across an area half a mile wide and nearly seven miles long in Breckinridge County.



Weather in 2016 tended to be dryer and warmer for much of Kentucky. Winter was generally milder and warmer than previous years with the only exceptional snowfall occurring towards the end of January where parts of eastern Kentucky received anywhere from 4-18 inches of snow.

This warmer trend continued into early spring where leaves of some trees emerged two weeks earlier than normal. Parts of Kentucky also experienced a dry summer and by September regions of eastern Kentucky were listed as abnormally dry. By the end of October the entire state was listed as abnormally dry and southeastern Kentucky was in a moderate drought. Dry conditions continued through November and by the end of the month the entire state was in a severe drought with southeastern Kentucky in an extreme drought. This extensive drought in southeastern Kentucky led to one of the state's busiest wildland fire seasons in the last decade.

References:

- [Kentucky's Office of the State Entomologist](#) provided data from their gypsy moth, pine shoot beetle, thousand cankers disease, and sudden oak death surveys.
- 2011 Land Cover data was obtained from the [National Land Cover Database](#).

Forest Health Assistance in Kentucky

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