Here Today, Gone Tomorrow?

Loblolly Pine *Sawflies* in Northwest Alabama

By Dana Stone, Forest Health Coordinator, Alabama Forestry Commission

Larvae of loblolly pine sawflies feed on loblolly pine needles.

Photo by Karl Byrd, AFC

With a normal range of temperatures and sufficient amount of precipitation over the last few years, forest pests have not been highly considered a serious threat to trees. Many of Alabama's forest pests that thrive under adverse environmental conditions, such as the Ips engraver beetle or oak decline, noticeably decreased with just a few reported cases. However, the population of at least one "periodic pest" multiplied and became quite destructive despite the current weather pattern. In fact, the favorable climatic conditions may have influenced the increase and effect of the loblolly pine sawfly (*Neodiprion taedae linearis*) which made its presence known in Northwest Alabama by defoliating several hundred acres of mature pines.

Like last year, in late spring of 2014 there were several reports of what appeared to be dying pines. Most of the visible damage was occurring on healthy loblolly pines growing in well-managed stands. A closer look revealed that the culprits were once again the larvae of the loblolly pine sawfly feeding on and defoliating pine needles. Infestations were reported in Colbert, Marion, Franklin, Lamar, and Fayette counties.

This particular species of pine sawfly produces only one generation per year. The larvae cause the damage to host trees by feeding on the foliage in the spring, mainly from April to May. During the early stages of attack, young larvae consume the outer tissue of the needles. The remaining section of the consumed foliage turns reddish-brown, giving an appearance that the trees are burned or injured by bark beetles. In the latter part of the infestation, the mature larvae consume the entire needle, practically defoliating the tree. The larvae feed for approximately four weeks before falling to the ground to eventually pupate in the soil and litter layers. A mature larva is approximately 1.25 inches long with a chocolate-brown colored head and a dull green body with heavy black stripes along each side.

Most pines will not succumb to the attack. Affected pines do recover from this partial defoliation and start growing lush green needles again by summer. However, a severe attack for three or more consecutive years may drastically reduce tree

vigor, causing the pines to become more susceptible to other pests such as bark beetles.

The best recommendation for controlling this pest is to wait until the upcoming summer to see if infested pines rebound from the attack with new green foliage. Population outbreaks are generally sporadic and localized within a large area. Because the loblolly pine sawfly is a native periodic pest, natural predators such as birds, small mammals, and parasitic organisms will prey on this defoliator. Other biological agents such as pathogens, viruses, and even starvation will eventually reduce the population.

Another option for controlling this defoliating pest is the use of contact insecticides which are effective when the larvae are present, although somewhat cost prohibitive for large acreage or pines in a stand of trees. Insecticides are generally used on infested pines in residential or commercial areas where aesthetics are a concern.

While this was the second consecutive year that the Alabama Forestry Commission received a formal report of the loblolly pine sawfly damaging trees in Northwest Alabama, it was the third consecutive year of an infestation for some loblolly stands. Each year following the attack, these pines were recovering and growing green needles by late June. However, areas in Marion and Franklin counties that were infested the previous year were not recovering as quickly as the new spots found in 2014.

Will the loblolly pine sawfly appear again next year? The answer to this question is difficult to say, but generally periodic pests are present at an epidemic level for only three to four consecutive years. This species may not appear in great numbers again until several years from now – suddenly defoliating pines during the spring season and then gone the following year.

If you do suspect that your pine stand is being infested with the loblolly pine sawfly, please report this information to your local Alabama Forestry Commission office.

- In 2013, the loblolly pine sawfly infested over 500 acres in Franklin and Marion counties.
- In 2014, this forest pest infested approximately 200 acres in Fayette County; 330 acres in Colbert County; 1,200 acres in Lamar County; 2,070 acres in Franklin County; and 4,097 acres in Marion County.

Photo by Karl Byrd, AFC

Aerial view of large area of loblolly pines damaged by sawfly in Marion County. (Inset) Close-up of sawfly damage to loblolly pines.

Photo by Phillip Montgomery, AFC