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Southern Pine Beetle History Lesson: What Should We Expect Going Forward?

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The Southern Pine Beetle (SPB) outbreak of 2012 was a wakeup call for many folks in Mississippi. The lack of SPB activity over the last 12 years or so in Mississippi and throughout the South had led to a false sense of security. Nature has a way of reminding us that we are not in control. Thankfully, history has some things to teach us regarding what to expect from the chaotic nature of SPB outbreaks.

The fact of the matter is, that even after over a hundred years of humans trying to monitor and predict SPB populations, we still don't fully understand their population cycles. In fact, some of the oldest reports of SPB activity seem to suggest that in the late 1800's and early 1900's, longer periods of SPB inactivity might have been the norm. A.D. Hopkins (the father of North American forest entomology) wrote of the earliest known SPB outbreaks in 1842. Another outbreak was reported in 1882-85 in Texas. The next major outbreaks reported by A.D. Hopkins were in 1890-93 in West Virginia and Virginia. Heavy Southwide losses were again reported 1908-11. It seems as though SPB populations may have cycled on a much longer timescale prior to 100 years ago.

Other authors, such as Craighead in 1925 reported outbreaks in 1902-05 in NC, and in VA from 1913-1916. Craighead characterized outbreaks as having 1-3 years of intense activity, then becoming very rare. Balch (1928) reported SPB outbreaks had occurred at 10 year intervals since 1890. St. George and Beal (1929) reported extensive outbreaks in 1922-23. Some minor SPB activity is reported in the literature from 1924-1949, but there are no historical accounts of large outbreaks during this time period.

In summary, from 1890-1923, historical accounts suggest that SPB outbreaks occurred somewhere in the Southeast on approximately 10 year intervals. After 1923, there was a gap of at least 25 years between outbreaks. Starting in the 1950s, outbreaks began again, and once outbreaks started within a state, they occurred at 6-10 year intervals until the late 1990's, when activity subsided in TX, LA, MS, and AR from 1997-1999, and remained extremely low until 2012, when activity began to pick up in Mississippi.

So what can we take away from this history lesson?

1. The 12-15 year break SPB seemed to take prior to 2012 may not be that abnormal on a biological timescale.
2. Despite low activity over the last 12-15 years, the SPB is far from finished wreaking havoc with southern timber production. SPB has "taken a break" before, but seems to always come back with a vengeance.
3. The length of that break can vary, but we don't know what causes this variability. Take advantage of precious lags in SPB activity to practice proper silviculture, especially thinning to reduce overstocking and maintain stand vigor. Consider longer periods of inactivity a blessing, but don't be lulled into complacency and think that overstocked stands are safe because SPB is gone. It isn't, as evidenced by its long

history of ebbing and flowing across the landscape.

4. Perhaps most importantly (at least this year), one other thing should jump out at us from this history lesson is that once outbreaks begin within a State, SPB activity is usually intense for anywhere from 2-4 years. Rarely are they "one and done" situations. All landowners in Mississippi are urged to be extremely vigilant during 2013 and report any outbreaks that pop up.

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