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J. David Lenhart

Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University

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**Perils Facing ETPPRP Plots
(1982-1995)**

J. David Lenhart
Professor and ETPPRP Director
College of Forestry, SFASU, Nacogdoches, TX, 75962

REPORT 41

From
the

East Texas Pine Plantation Research Project

College of Forestry

SFASU

Nacogdoches, TX 75962

February ... 1996

A total of 256 permanent growth and yield research plots were installed by the College of Forestry at Stephen F. Austin State University in pine plantations throughout East Texas during 1982-84. Of the total number, 178 were installed in loblolly (*Pinus taeda* L.), and 78 were placed in slash (*Pinus elliottii* Engelm.) pine plantations. The purpose of the plots is to provide data for the East Texas Pine Plantation Research Project (ETPPRP).

Each ETPPRP plot covers 1.2 acres.

The plots are located on industrial land. In many cases, the plots are located behind a locked company gate and within a hunting lease, which is often patrolled by hunting club members. Some plots are within 4-5 chains of an access road, while other plots are 8-10 chains from the road. It would seem that the typical ETPPRP plot is isolated and protected.

Perhaps it could be suggested that about 3 million acres of East Texas forest land are in pine plantations. It can be calculated that the 256 ETPPRP plots cover about 307 acres (256×1.2 acres), which is approximately a 0.01% ($307 / 3,000,000 \times 100$) sample of the total planted acreage. On a sample of this size, the probability of something extraordinary happening to a specific plot should be very small, particularly since the plots are scattered throughout East Texas.

In theory, the perils facing the ETPPRP plots should be minimal and circumstances should favor plot survival, however ==>

Between 1982 and 1995, fascinating and not-so-fascinating reasons have caused the loss of 47 of 178 plots (26%) in loblolly pine plantations and 25 of 78 plots (32%) in slash pine plantations, Figures 1 and 2, respectively.

Perils Facing Loblolly plots...

In addition to Figure 1, an analysis indicated:

- The dominant reason for losing a plot in a loblolly pine plantation is an operational thinning (14 of 47 plots or 30%), where the equipment operator inadvertently continues down a row of trees through the research plot.
- Next most common reason is the southern pine beetle (*Dendroctonus frontalis* Zimm.) (SPB) at about 20%. (Very interesting that the SPB tends to zero in on so many loblolly pine plots?)
- Next prevailing reason is another act of man -- clear cut harvesting operations (10%).
- Following that is land sales (9%). Several double-wide trailers are now located among aluminum-tagged pine trees.
- Eleven other categories (31%) list additional reasons for plot losses. (Note: Both oil/gas wells were dry, but the plots were already ruined.)

Summary

Of the 47 destroyed plots in loblolly pine plantations, 74% were due to acts of man, with harvesting operations (thinnings or clear cut) dominating. Principal cause due to an act of nature was the southern pine beetle.

Perils Facing Slash plots...

In addition to Figure 2, an analysis showed:

- As was the case for loblolly plots, the primary reason for losing a plot in a slash pine plantation is also an operational thinning (10 of 25 or 40%).
- Clear cutting harvesting operations accounted for 16% of the plot losses.
- Five other categories (44%) denoted other man-inflicted causes for plot losses.

Summary

Of the 25 plots in slash pine plantations that have been lost so far, all losses were due to an act of man. No slash pine plots were destroyed by SPB.

CAUSE OF PLOT DESTRUCTION

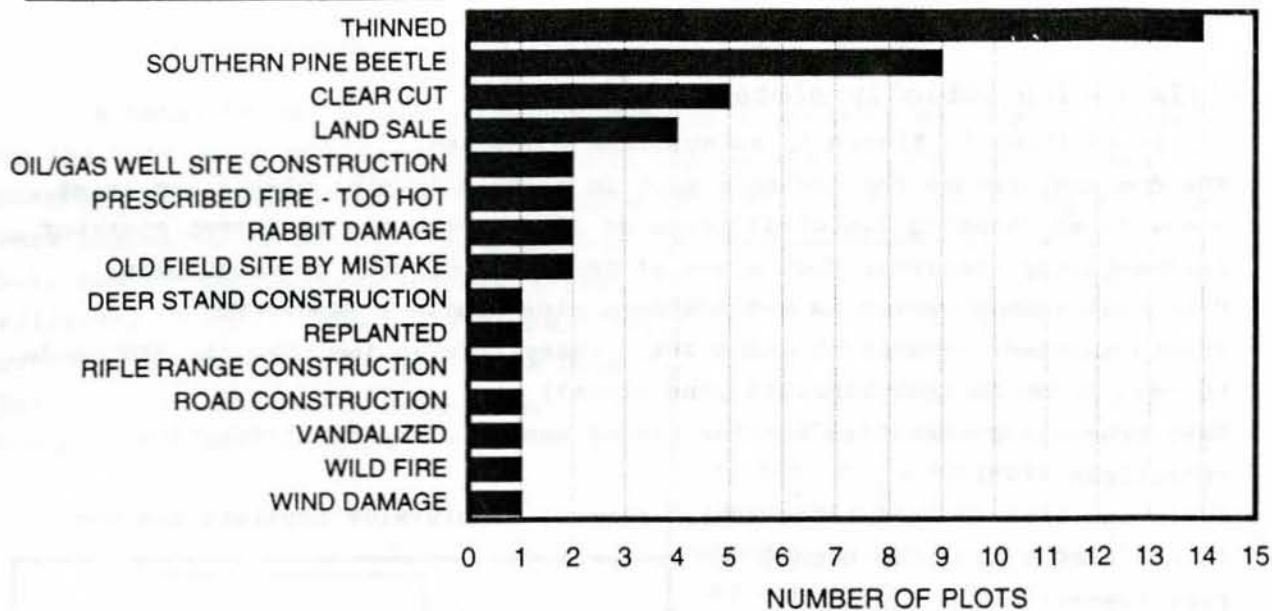


Figure 1. Number of loblolly pine ETPPRP research plots by cause of destruction during 1982-1995.

CAUSE OF PLOT DESTRUCTION

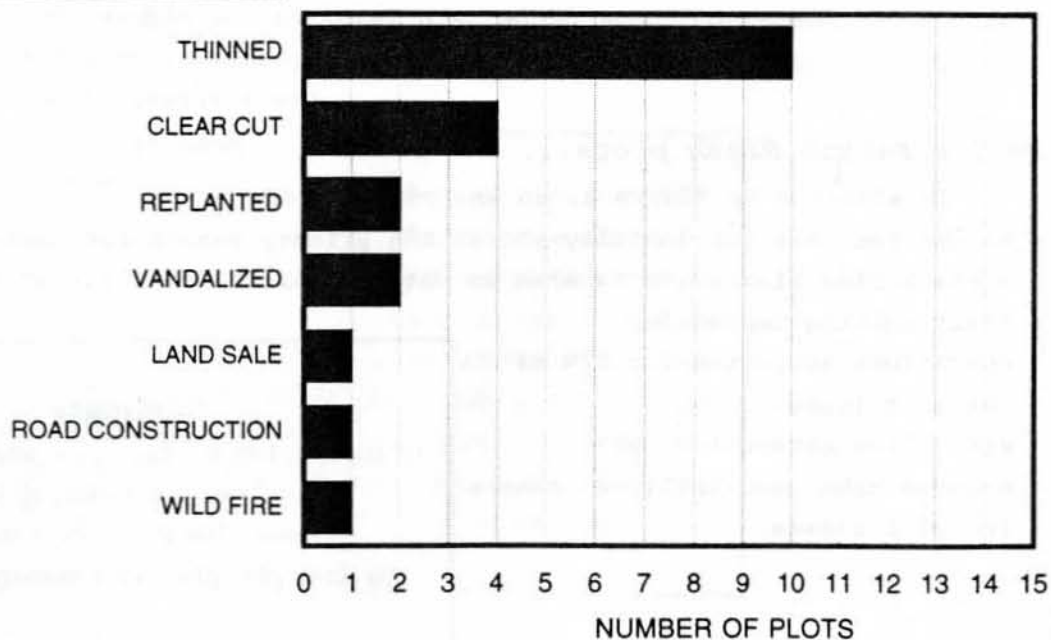


Figure 2. Number of slash pine ETPPRP research plots by cause of destruction during 1982-1995.