

Regional Longleaf Pine (*Pinus palustris*) Natural Regeneration

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Duration: 1968-present

Objective: Test the shelterwood system of longleaf pine natural regeneration.

Methods: Longleaf pine natural regeneration tests were established from 1966 through 1970 at ten locations in seven states from North Carolina to Louisiana. One of these was established on a 50-acre flatwoods site on Eglin AFB in 1968. Regeneration was initially established in 1979, with approximately 1,200 seedlings per acre. With little additional stocking supplied by subsequent seed crops, the parent overstory was finally removed in the fall of 1987. Annual monitoring includes stocking and growth of regeneration; counts of flowers, conelets and cones produced by 100 marked seed trees; and seed tree mortality until removal of the overstory .

Progress: At the 1998 examination, longleaf regeneration remained at about 800 to 900 trees per acre, with 37% of sample milacre and 64% of sample four-milacre plots stocked with one or more young longleaf pines. The best tree per Stocked four-milacre plot increased from an average of 10.0 feet to 11.6 feet in height (range 0 to 31 feet). Longleaf flower, conelet and cone counts were made in the spring of 1998 at two locations on Eglin AFB; a poor sandhill site and a shelterwood stand on a somewhat better site. Following the exceptionally heavy 1996 cone crop, the 1997 cone crop was a failure, averaging 6.7 cones/tree in the shelterwood and 3.6 cones/tree in the sandhills. Estimates from conelet counts indicate that the 1998 cone crop will also be a failure (< 10 cones/tree) on the sandhill site, with a poor crop (<20 cones/tree) in prospect for the shelterwood site. Flower counts indicate that the 1999 cone crop will be poor at best on both sandhill and shelterwood sites. Counts were made at eight other locations throughout the southeast, and seven of these had

a 1997 cone crop that was either poor (2) or failure (5).

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