EVALUATION OF SOUTHERN PINE BEETLE ON THE WYAH RANGER DISTRICT
NANTAHALA NATIONAL FOREST, NORTH CAROLINA

U.S. Forest Service
ASHEVILLE, NORTH CAROLINA

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE
SOUTHEASTERN AREA | STATE AND PRIVATE FORESTRY
DIVISION OF FOREST PEST CONTROL
EVALUATION OF SOUTHERN PINE BEETLE ON THE WAYAH RANGER DISTRICT
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ABSTRACT
An aerial photographic and ground survey of southern pine beetle, *Dendroctonus frontalis* Zimm. infestations was performed in August, 1970 within the purchase boundary of the Wayah Ranger District of the Nantahala National Forest. Survey results revealed a continuing low beetle population over the 390,000 acre area. Even though a small nucleus of live beetles was found, it is unlikely that the southern pine beetle population will become a problem in this area during the remaining months of 1970.

INTRODUCTION
Southern pine beetle populations on the Wayah Ranger District were drastically reduced by sub-zero temperatures this past winter. An evaluation in January, 1970 revealed that mortality ranged from 79 to 100 percent on the District (Flavell, et.al., 1970). Another evaluation in April, 1970 evinced only two actively infested spots and a brood density of approximately 68 insects per square foot of bark (Ward et.al., 1970).
Fig. 1. Location of photo plots, Wayah Ranger District, Nantahala National Forest, North Carolina, August 1970.
Increased southern pine beetle activity on two adjoining Ranger Districts during the early summer months indicated the need for another evaluation survey on the Wayah District of the Nantahala National Forest.

An aerial photographic survey of the Wayah Ranger District was conducted on August 5, 1970 by W.H. Clerke and W.E. McDowell. The ground survey was performed by W.E. McDowell and P.J. Barry on August 20 and 21, 1970.

METHODS

The aerial photographic survey consisted of sixty-two, 200-acre plots photographed from an Aero Commander aircraft using a K-17C camera with a 12-inch focal length lens at a scale of 1:6,000. The film-filter combination used was Kodak Ektachrome Infrared Recording Film, Type 2443 with a Wratten No.15 and Corning 3966 filters. Plots were arranged in a systematic manner along ten flight lines and provided three percent coverage of the 390,000 acre survey area (Fig. 1).

Film processing and photo interpretation were performed at the Asheville Office, Division of Forest Pest Control.

Interpretation of the photographs consisted of marking the boundaries of a 200-acre plot in the center of the overlap area of each stereo pair of photographs. A photo interpreter recorded the number of beetle spots and number of trees in each spot for each photo plot. Acreage of host type was estimated using a modified grid. Host type is defined as any stand containing 25 percent or more of pine.

RESULTS

Two spots, each consisting of two trees were found on the 62 photo plots. Based on the small size of these spots and their inaccessibility, ground examinations were made of four old spots known from previous surveys. Three of the spots were found to be inactive with the fourth spot containing only four infested trees. Average brood density was approximately 205 insects per square foot of bark in this spot. Predator and parasite populations were high.
DISCUSSION

A build-up of the southern pine beetle population on the Wayah Ranger District did not materialize this summer. This was undoubtedly due to the sub-zero temperatures experienced in this area in January, 1970 and the increased rainfall in July and August.

It is unlikely that the southern pine beetle will become a problem in this area during 1970.

RECOMMENDATIONS

1. Initiation of a southern pine beetle control project by District personnel is not deemed necessary at the present time.

2. Wayah Ranger District personnel should maintain close field surveillance for any indication of an increase in southern pine beetle activity.

3. Any freshly attacked trees and/or new beetle spots indicating a resurgence of beetle populations should be reported to the Division of Forest Pest Control.

4. A reconnaissance survey will be made by the Division of Forest Pest Control in late September or October of 1970.

REFERENCES


More detailed information can be obtained by writing to the Forest Pest Control Division Field Offices listed below or to the Atlanta Office.

**FIELD OFFICES:**

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