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Study of Relations of Bird Populations to Structure in Aspen Stands

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I arrived at the Station in late May, 1966 and began locating suitable study areas. By June 10, eight areas were found which seemed relatively homogeneous and which varied in age. All were located on hillsides facing north-northwest and each was a part of a larger aspen stand well away from other forest communities. The plots were all 900 feet on a side, about twenty acres. The stands are found between Moran on the north and Fall Creek in Teton County.

During June and early July the bird populations in each area were estimated using a transect method. Four such transects were run in each study area. Notes on the activities of the birds, the location of nests and general habitat use were taken during this time.

During July and August the vegetation was sampled in each area, methods being directed towards analysis of differences in structure in the stands. Circular quadrats were distributed by means of a grid and random numbers table. Important were such things as height, diameter and density of trees, density and thickness of canopy, density and diameter of dead trees, height and density of shrubs and herbs, and density of saplings. Other features were also recorded including age of the stands.

Since completing the field work, I have been summarizing the data and attempting to sort out useful information. General findings of interest at this early stage include the following. The ages of the stands varies from 25 to 150 years, the youngest stand having a tree density of about 2,200 per acre, the oldest 80 trees per acre. The youngest stand had a low number of nesting species, five, and a low total number of individuals. Various middle aged stands have more nesting species (10-15) and higher total numbers of individuals, while the oldest most open stands have as many as 20 nesting species but with a lower total count of individuals than the middle aged stands. A stand composed of trees of widely differing age and size (many openings, dense understory) supported the greatest number of individuals.

Detail cannot be given at this point as to results and possible correlations. It is hoped that structural features of the aspen stands can be related to the findings on bird populations, and possibly measures of diversity will be worked out for stand comparisons. The study is being written up for the master's thesis and should be completed in the spring semester of 1967.