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Avian Use of a Bottomland Hardwood Afforestation Site in the Red River Alluvial Valley

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Bottomland hardwood forests cover about 2.8 hectares of the original 10 million hectares that once existed in the southeastern United States. These losses have led to an emphasis on afforestation of retired agricultural land. It is important evaluate changes in wildlife communities as these afforested stands mature. For instance, topographic variation within them can lead to certain tree species becoming better established in certain areas compared to others, leading to an afforested stand with forest types of differing species. Previous research at an 809-ha afforested bottomland hardwood stand near Coushatta, Louisiana identified seven forest types. We conducted point count surveys at 28 point locations evenly distributed among the forest types at the afforested stand six times during the avian breeding (i.e., June-August, twice/month), recording detected species and its distance from point. We used DISTANCE 7.0 to estimate a detection function and avian density within each of the forest types. Avian diversity was calculated for each forest types using Shannon's Diversity Index. Preliminary results for woodland bird density in each of the forest types ranged from 1.698 bird/ha in willow oak (*Quercus phellos*) to 26.181 birds/ha in sweet pecan (*Carya illinoinensis*) during the 2016 breeding season. Bird density for the 2017 breeding season in each forest types ranged from 4.879 birds/ha in sweetgum (*Liquidambar styraciflua*) to 20.405 birds/ha in sugarberry (*Celtis laevigata*) – persimmon (*Diospyros virginiana*). Shannon's Diversity Indices for 2016 diversity analysis ranged from 2.320 (H max = 2.565) in sweetgum to 2.636 (H max = 2.890) in sweet pecan, with diversity analysis in 2017 showing changes with sweet pecan increasing by 0.149 (H max = 3.045) and sugarberry – persimmon at 2.399 (H max = 2.944). The results from this study will aid in developing if forest management recommendations to promote breeding bird use of the afforested bottomland hardwood stand.