Forest Breeding Bird Census for 2020
In Beaverhill Natural Area

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During the summer, the Beaverhill Bird Observatory conducts two breeding bird censuses within the Beaverhill Natural Area. These censuses include a grassland and a forest grid. The forest grid was surveyed seven times between June 12 and July 6 during the 2020 field season by Sara; Shane analyzed the data and wrote the report. The forest grid consists of an 11x11 grid of points 50m apart, for a total area of 0.25km^2. The habitat is mostly the mixed age aspen forest surrounding the observatory, with some points including willow thickets and clearings. At each point, the position of singing birds was recorded; counter-singing events in which 2 birds sang simultaneously or in quick succession were also noted. This data on territorial behaviour was used to construct approximate species-specific territory maps for birds presumably breeding within the grid.

The two most common species found within the forest grid were Least Flycatchers and House Wrens. Both are common local breeders. However the census grid overlaps with a grid of House Wren nest boxes, biasing the numbers. Least Flycatchers were detected in 43 territories, and House Wrens in 24. Yellow Warblers, another common local breeder, had 10 detected territories, and Warbling Vireos were detected in 4 territories. Other commonly detected species included Baltimore Orioles (1 contested area), American Goldfinches and Clay-colored Sparrows (1 territory), although many of these sightings appeared incidental and territoriality was light. Other confirmed and likely territories include an active Hairy Woodpecker and Yellow-bellied Sapsucker nests and a family of Ruffed Grouse. Other incidental detections include Black-capped Chickadees, Rose-breasted Grosbeaks and Red-winged Blackbirds, and occasional Red-eyed Vireos, American Robins and Cedar Waxwings.

Detection of bird territories is largely in line with expectations both from habitat type and historical detections. Least Flycatchers are one of the most frequently detected species during migration monitoring and MAPS, and are found throughout much of the aspen parkland

surrounding the observatory. The forest grid also has some overlap with one of our House Wren nest box grids, and consequently they become far more common when approaching that section of forest. Yellow Warblers are more common near clearing edges and in areas more populated by willow stands, which also fits with their habitat preference. Clay-colored Sparrow, a grassland species, was occasionally detected, but only near forest edges bordering grassland. Warbling Vireos also seemed to prefer edges, and were found most frequently in the forests bordering the lab clearing.

Territory sizes were very variable for Least Flycatchers, and were largely dependent on territory density. Areas with more densely packed territories featured smaller, more contested territories with more counter-singing events. Less common species, notable Yellow Warblers and Warbling Vireos, had more consistent territory sizes and territories that were more spread out. House Wrens also had much more consistent territory sizes despite their relatively high density. The single observed Clay-Coloured Sparrow territory was very small despite the relative lack of competition, fitting with their territorial model in the grassland grid. Areas extensively used by House Wrens also appeared to have slightly lower utilization from other bird species.