

# 2022 Forest Breeding Bird Census In the Beaverhill Natural Area: Summary

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The Beaverhill Bird Observatory (BBO) runs several research projects during the summer that target local breeding birds in hopes of learning more about their populations and behaviour. The forest breeding bird census aims to monitor populations of birds breeding within the aspen poplar forest that covers much of the Beaverhill Natural Area. This survey occurs in a 10x10 grid of points, with individual points being spaced roughly 50m apart. The total area is 25 hectares or ¼ sq km. The grid was surveyed 6 times between June 8 and July 12. While the protocol for this survey recommends 8 surveys be completed, frequent rain and scheduling issues prevented more surveys from being run within the recommended timeframe.

During surveys the locations of all detected species were recorded on a map of the grid, as well as how each individual was detected (song, call, or sight). Counter-singing, defined as any detection where two birds of the same species can be heard singing simultaneously, was recorded by drawing a dotted line between both individuals. After each survey, species-specific sightings maps were created for 7 of the most abundant species during surveys. Once all 6 surveys were finished, territory boundaries were determined based on the locations of counter-singing events. A total of 221 territories were identified across 7 species (Table 1).

Table 1. Summary of territory numbers and densities for 7 commonly observed species in the forest breeding bird grid

Species	# of territories	Territory Density (territories/ha)
<b>Least Flycatcher</b>	99	3.96
<b>Yellow Warbler</b>	51	2.04
<b>House Wren</b>	28	1.12
<b>Clay-colored Sparrow</b>	13	0.52
<b>Baltimore Oriole</b>	12	0.48
<b>Warbling Vireo</b>	10	0.40
<b>Red-eyed Vireo</b>	8	0.32

Least Flycatchers were by far the most abundant species encountered during surveys with 99 territories being identified. Territories for this species were found across the entire survey area, but they were also clustered in their distribution. Territory clustering in Least Flycatchers is well documented, though the exact reason for this behaviour remains unclear. Theorized reasons for this behaviour include clustering due to shared resource needs or potential lekking behaviour by singing males.

One interesting result from this year's surveys was the presence of breeding Clay-colored Sparrows within the forest breeding bird grid. Clay-colored Sparrows have been detected in previous surveys, particularly in areas near the forest edge. This year 13 territories were

identified, of which 8 were in the forest interior. The increased presence of a grassland species in the forest interior is likely related to the return of Beaverhill Lake. Prior to 2017, the lake was a massive grassland with large swathes of suitable territory for species like the Clay-colored Sparrow. With the lakebed filling more each year, some of these species may be forced into increasingly marginal habitat as more grassland habitat is drowned out.