

## Forest Breeding Bird Census Summary

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Summer 2021

Each summer, in recent years, the Beaverhill Bird Observatory (BBO) has conducted Breeding Bird Census surveys in the grassland and forest habitats. While a summer intern conducted the grassland surveys, BBO staff completed the forest surveys. The forest census survey area is within a mid-succession mixed forest dominated by Trembling Aspen and Balsam Poplar and is bordered by willows leading to open grassland. The grid is arranged A-K and 1-10, with survey points 50m apart, located near the northwest corner of the natural area, encompassing 25 ha of the forest surrounding the BBO's research building and clearing.

Staff members conducted surveys in 2021 between June 16 and July 9, alternating starting points and direction travelled. Seven surveys were completed, starting at sunrise, and averaged 4.5 hours. The staff navigated to the dedicated survey points on the grid using compass and GPS, and identified and recorded birds singing, calling, counter-singing and flyovers throughout the census area.

The data from each survey were compiled onto species-specific maps, then breeding territories were determined for the six most encountered species: Least Flycatcher (148 territories), House Wren (24 territories), Yellow Warbler (60 territories), Warbling Vireo (14 territories), Red-Eyed Vireo (17 territories), Baltimore Oriole (8 territories). The territories were determined by counter-singing and repeated songs or calls observed in an area over multiple surveys.

Due to the forest survey area being bordered by willow stands and containing the House Wren nesting box grid, there was a higher concentration of House Wren breeding territories in the northern portion of the area surveyed. Least Flycatchers were by far the most concentrated for breeding territory density, encompassing the entirety of the forest grid. The Yellow Warbler breeding territories were concentrated along the forest edges, where the willows bordered the forest. The Warbling Vireo and Red-Eyed Vireo breeding territories were dispersed throughout the forest in clusters of territories. The Baltimore Oriole breeding territories were remarkably large and dispersed, encompassing the entire forest grid.

*Table 1 Most frequent species observed*

Species	# of breeding territories	Density of territories
Least Flycatcher	148	5.92
House Wren	24	0.96
Yellow Warbler	60	2.4
Warbling Vireo	14	0.56
Red-Eyed Vireo	17	0.68
Baltimore Oriole	8	0.32

Table 2 Number of breeding territories and density of territories compared over 3 years (2020 data not available)

Species	2021		2019		2018	
	# of breeding territories	Density (territories/ha)	# of breeding territories	Density (territories/ha)	# of breeding territories	Density (territories/ha)
Least Flycatcher	148	5.92	80	3.2	217	8.86
House Wren	24	0.96	13	0.36	32	1.28
Yellow Warbler	60	2.4	38	1.25	20	0.8
Warbling Vireo	14	0.56	15	0.6	5	0.2
Red-Eyed Vireo	17	0.68	0	0	1	0.04
Baltimore Oriole	8	0.32	9	0.36	3	0.12