Beaverhill Bird Observatory
Summer Report 2024

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Introduction

This summer, the Beaverhill Bird Observatory (BBO) conducted several programs and projects, including the Monitoring Avian Productivity and Survivorship (MAPS) program, post-secondary internships and staff research projects. Additionally, nestling banding of Tree Swallows and Purple Martins occurred during the summer, as well as the eighth Young Ornithologists' Workshop. Summer banding of Northern Saw-whet Owls was also successfully attempted.

All projects and activities were overseen by Head Biologist Jana Teefy, supported by Assistant Biologist Jon van Arragon, and Summer Biologists Ethan Denton, Xavier Quantz, and Emelie Dykstra. The staff continued four monitoring projects in the natural area, including Least Flycatcher Nest Monitoring, Shorebird Surveys, the Marsh Bird Monitoring, and the Forest Breeding Bird Survey. BBO Interns conducted six survey projects: Tree Swallow Nest Box Surveys, Purple Martin Nest Box Surveys, House Wren Nest Box Surveys, Grassland Breeding Bird Census, Butterfly Surveys, and Bat Surveys. Education Ambassador birds on site included Nina the Burrowing Owl, Tansi the Great Horned Owl, and Kenny the Barbary Falcon.

Kenny the Barbary Falcon (photo by J. Froese)

MAPS banding

MAPS (Monitoring Avian Productivity and Survivorship) is a standardized program that operates across North America to track the productivity of nests and the survival rates of local species. It also helps identify trends in both local and widespread breeding populations. With over 1,400 MAPS stations throughout North America, a vast amount of data has been collected. This data has been crucial for numerous research studies and conservation initiatives led by universities, government agencies, and non-profit organizations. Since the program began in 1989, the BBO has been involved in MAPS banding and currently manages three stations: BLAB, SOPO, and LILA.

MAPS stations are run according to the protocols set by the Institute for Bird Populations. Each station operates ten mist nets for up to 60 net hours, with a minimum of 30 net hours, once every ten days. The nets, measuring 12 meters in length and 2.6 meters in height with 30mm mesh, are checked every 30 minutes. Bird safety is the priority, and nets are not used when temperatures exceed 27°C, wind speeds are over 20 km/h, or during any form of precipitation.

In total, 785 birds were caught in 853 net hours during the 2024 MAPS season, averaging 92 captures per 100 net hours. The most frequent species were Yellow Warblers (187 captures), accounting for 24.1% of captures, and Least Flycatchers (184 captures), accounting for 23.7% of captures. This means almost half of the total captures this summer were these two species! The runner-up for most caught were Red-winged Blackbird (48 for 6.2%).

Yellow Warbler (photo by J. van Arragon)

BBO Lab (BLAB) banding

The BBO Lab (BLAB) station is the longest-operating MAPS station at the BBO. This summer, it marked its 35th year of operation, making it one of the longest-running MAPS sites in North America. As the surrounding forest continues to mature, BLAB is now surrounded by a young poplar forest with sparse undergrowth, resulting in fewer bird captures than historically and compared to the other two BBO stations. BLAB operated on June 13th and 22nd, July 2nd, 13th, and 20th, and August 3rd. In total, BLAB caught 70 birds in 310 net hours, or 22.6 captures per 100 nets hours. The most common species caught were Least Flycatchers, with 40 captures (57.1% of captures), distantly followed by Baltimore Orioles with 7 captures (17.5% of captures)..

Sora Pond (SOPO) banding

The Sora Pond (SOPO) MAPS station is located on the southwest side of Sora Pond, positioned between the pond and Lister Lake. This station covers a mix of young poplar forest and wetland areas vegetated with dense willows, creating a habitat that supports a diverse bird population and consistently higher capture rates than the other two stations. SOPO was run on June 10th and 20th, July 4th, 11th, and 21st, and August 4th. In total, SOPO caught 390 birds in 259.5 net hours, or 150.3 captures per 100 nets hours. The most common species was Yellow Warblers at 123 captures (31.5% of captures), followed by Least Flycatchers with 84 captures (21.5%). Notable captures at SOPO this year included a Nelson's Sparrow and a Sedge Wren.

Lister Lake (LILA) banding

The Lister Lake (LILA) station is situated on the northwest shore of Lister Lake, where young poplar forest meets the dense willows and cattails along the lakeshore. LILA was run on June 11th and 21st, July 7th, 12th, 22nd, and August 6th. LILA caught 325 birds total in 283.5 net hours, or 114.6 captures per 100 net hours. The most common species was Yellow Warblers with 69 captures (21.2% of captures), closely followed by Least Flycatchers with 65 captures (20.0% of captures). LILA caught the first and only Philadelphia Vireo of the year so far, and a Swamp Sparrow.

Nestling Banding

The BBO maintains three grids of Tree Swallow nest boxes, with a total of over 200 boxes. Dr. Ivy Schoepf, a professor at the University of Alberta, conducted most of the banding at the Road and Spiral grids, while BBO staff concentrated on the New Grid. Ivy's research focuses on haemosporidian infections and their effect on the nestlings and exploring a possible correlation between parasites carrying avian malaria and nest site selection. In total, 219 Tree Swallow nestlings were banded, along with 32 adult Tree Swallows.

The four Purple Martin nest boxes housed a breeding colony in its third extant year, which allowed 69 Purple Martins from 15 different nests to be banded. The return of a breeding population has allowed an internship project to focus on the Purple Martins, which will give more insight into the nesting behaviours they exhibit in the natural area.

Owl Banding

Northern Saw-whet Owl nets and audio lures were set up on June 15 to attempt to catch the breeding female that occupied a nest box which was banded in the spring. Two females with brood patches were caught, one that was previously banded and one new band. Both owls were equipped with radio transmitters (nanotags) for location tracking via MOTUS towers, and one was detected at the BBO every day for the rest of the summer! It will be exciting to see where these two end up for the rest of the year.

Northern Saw-whet Owl (photo by J. Teefy)

Young Ornithologists' workshop

The Geoff Holroyd Young Ornithologists' Workshop saw its eighth year, with ten youths from around the continent joining the staff for a week to experience bird banding hands on. The youth came from Alberta, BC, California, Pennsylvania and Massachusetts. Young birders learned to age, sex, and identify local birds at both MAPS stations and Migration Monitoring nets. They also learned how to band and extract passerines, and experienced life as field biologists from BBO biologists and NABC certified banders and trainers, Jana Teefy and Jon Van Arragon. From camping in the clearing and waking up early to touring the Trefry falconry farm, the Young Ornithologists experienced several aspects of working with birds. They also had the opportunity to learn from experts, such as Dr. Geoff Holroyd, Dave Lawrie, and Helen and Phil Trefry, who taught the youth about Tree Swallows, butterflies, and falconry, respectively. The young birders also participated in an iNaturalist Bioblitz, led by Xavier and Emelie, identifying arthropods, fungi, plants, and other living things in the natural area. In total, they observed more than 250 species over the course of three hours. Additionally, they went shorebird searching with Ethan, and completed a Big Birding Day with Ethan, Irene Crosland, and Helen Trefry. Their efforts were rewarded with a grand total of 113 species for the day and canoeing and pizza at Geoff's. Overall, the week was a great success, with an incredible group of youths and new experience gained.

Eighth annual Young Ornithologists' Workshop. From left to right: (Top) Geoff Holroyd, Helen Trefry, Emelie Dykstra, Mariana Prado Garcia, (middle) Anna Reichenbach, Casey Elliott, Jana Teefy, Jewels (dog), Jon van Arragon, Xavier Quantz, Ethan Denton, Cohen Seatter, (bottom) Jocelyn Pyne, Bently Colwill, Anna Heming, Andrew Tymchuk, Blake Gervais, Evan Gervais, Niko Dmytriw

Field Projects

This summer, several field projects were conducted at the BBO. Emelie Dykstra continued the Least Flycatcher (LEFL) nest survey study initiated in 2022. Xavier Quantz completed the Marsh Monitoring Protocol (MMP) Surveys at Lister Lake, and Jon Van Arragon resumed the Forest Breeding Bird Census Survey. Ethan Denton continued Shorebird Surveys, which were previously summarized in The Willet for the spring, which can be found on the BBO website.

Least Flycatcher Nest Monitoring

The third year of Least Flycatcher Nest Monitoring, lead by Emelie, revealed interesting nesting strategies of Least Flycatchers. 38 nests were regularly observed over the breeding season, including 16 active nests. Of the active nests, eight were reused from previous years, indicating that Least Flycatchers in the Beaverhill Natural Area are regularly reusing old nesting structures. A complete report will be published on the BBO website in the fall, discussing the potential advantages and implications of nest reuse in Least Flycatchers.

Marsh Monitoring Protocol

The Marsh Monitoring Protocol consists of four surveys conducted throughout June. Each survey includes several standardized point counts along the shoreline of Lister Lake, where audio playback is used to target specific wetland species. Xavier conducted both day and night surveys and was rewarded with several of the target species, including the first detection of Yellow Rails ever during the Marsh Monitoring. A full report of the surveys and the species detected will be published on the BBO website this fall.

Forest Breeding Bird Census Grid

25ha were surveyed by Jon this summer, identifying breeding territories of local birds. Interestingly, he found evidence of old-forest selecting species establishing breeding territory, indicating that the succession of the young poplar forest is progressing to allow for new species to become local breeders. White-throated Sparrows and Yellow-rumped Warblers are two such species, and evidence of the presence of Pileated Woodpeckers and Barred Owls have similar implications. A report detailing the survey results will be published on the BBO website in the fall.

Summer Internships

This year the BBO facilitated six internship programs, providing nine students with projects over the course of the summer. Five of the programs are continuations of long-term monitoring projects: the monitoring and maintenance of Tree Swallow and House Wren nest boxes, butterfly surveys, bat occupancy surveys and acoustic detection, and the Grassland Breeding Bird Survey. With the increasing breeding population of Purple Martins, and the installment of two more colony nest boxes this year, an additional project was introduced to monitor the local population. Intern reports on each of these projects will be published on the BBO website in the fall. These projects wouldn't be possible without the dedicated work of the interns and their mentors throughout the summer!

Tree Swallow Nest Box Surveys: Michelle Turgeon & Angie Arreola

Mentor: Ivy Schoepf

House Wren Nest Box Surveys: Billie Bilodeau

Mentor: Zach Antoniw

Purple Martin Nest Box Surveys: Addison Komarnisky

Mentor: Glen Hvenegaard

Butterfly Surveys: Rylan Smigorowsky

Mentor: John Acorn

Grassland Breeding Bird Surveys: Caitlyn McLaughlin

Mentor: Karin Snyder

Bat Surveys: Rayna Gilfillan & Francesca Uy

Mentor: Doris Audet

Volunteers

Operations at the BBO are possible with the dedication, effort, and skills of volunteers. We would like to express our gratitude to the BBO board members, especially our treasurer, Rose Scott, for their dedicated efforts behind the scenes to ensure the work in the natural area runs smoothly. A special thanks goes to Geoff Holroyd, along with Phil and Helen Trefry, for their hard work during the Young Ornithologists' Workshop and for their countless other crucial contributions.

Volunteers during Migration Monitoring and MAPS banding are essential in seamless operations during the summer. We would like to thank Irene, Jay, Gabby, Mariana, Megan, Sam, Adara, Quinn, Matt, Willow, Jasper, Trish, Nikolas, Sophia, Patrick, Madison, Jenelle, Kylli, and Hazel, for their help with banding operations and other on-site tasks.

The Beaverhill Bird Observatory is a proud member of the Beaver County and Tofield communities. We thank our many supporters and funders that are shown below along with personal donations including in memory of Mary Hughes Weir and the Wainwright Wildlife Society.
Visit www.beaverhillbirds.com for more information.