



Summer Report 2021

By: Jana Teefy

Introduction

The Beaverhill Bird Observatory (BBO) staff have been settling into the luxury of the new research and education centre, and the amenities it provides. Installation of the solar panels was completed mid-July, which provides the staff with power to operate internet and cell service, and luxuries like a coffee maker, toaster oven, and ceiling fans. More importantly, the solar panels also power the Motus tower, which will provide invaluable data on songbird and owl migration as Motus technology becomes more available in Western Canada.

Numerous programs were operated this summer under the leadership of the multi-talented head biologist Sara Pearce Meijerink, backed by the assistant biologist Shane Abernathy and summer students Jon Van Arragon and Jana Teefy. The summer season ran from June 10 – August 8, with MAPS banding, student internships, the Young Ornithologists workshop, Breeding Bird Census, Tree Swallow chick banding, and nest and breeding colony searches taking place. Additionally, the staff participated in nestling banding of privately owned Purple Martin colonies. On top of the regular programming, staff worked diligently on stewardship duties, including Alberta Parks sign installations, gravelling the access road, reporting inconsistent activities in the natural area, maintaining the walking trails in the natural area, fence repair, and various other maintenance tasks.

Monitoring Avian Productivity and Survivorship

MAPS is a North America-wide program established in 1989 by the Institute for Bird Populations and is used to monitor survivorship, breeding productivity, health, and dispersal in local breeding birds. The data collected is shared in collaboration with government and public agencies, other banding stations, and individuals to monitor breeding success and aid conservation efforts. The BBO operates three MAPS stations and is has one of the oldest MAPS stations in North America, with our BLAB station being established in 1989. SOPO and LILA are additional stations that were established in 2016, after our WEIR and PARK stations were retired.

Each station, LILA being an exception, operated 10 mist nets that are 12m long x 2.6m tall with a 30mm mesh. The program ran from June 11 – Aug 5, with nets opened at sunrise, remaining open for 6 hours, weather permitting, and checked every 30 minutes. Each station ran once in each 10-day cycle for a total of 6 cycles. For bird safety, the nets only remain open when temperatures were below 27°C, there was no precipitation, and the wind speed was below 20 km/hr. A total of 478 birds were captured in 857 Net Hours, producing a capture rate of 55.8 captures/100 NH.



Some captures from MAPS banding included a Red-eyed Vireo, Gray Catbird, Rose-breasted Grosbeak, White-throated Sparrow, Common Yellowthroat, Cedar Waxwing, Downy Woodpecker, Black-capped Chickadee, and Brown-headed Cowbird.

Photo Credit: Jana Teefy

BBO LAB

BLAB is located in the forested area surrounding the banding lab (N53.38055° W112.52737°). Significant forest succession has occurred in the years since BLAB's inception. What once was an early succession willow shrubland is now a mid-succession mixed forest dominated by Trembling Aspen and Balsam Poplar. Due to the forest succession that has surpassed the height of the net locations, the capture rates have been steadily declining, resulting in a low productivity station. However, this provides valuable information regarding how forest succession impacts breeding bird territories and their productivity.

At BLAB we captured a total of 49 birds and 8 species this year. Banding occurred June 11, June 20, July 2, July 11, July 21, and Aug 3 and totalled 297 Net-Hours with 16.5 captures/100 NH. Least Flycatcher (23) were by far the most frequently caught, followed by Red-winged Blackbird (11) and American Robin (10). Highlight captures include a beautiful male Ruby-throated Hummingbird (1), Baltimore Oriole (1), and Hairy Woodpecker (1). A Black-capped Chickadee (1) and a Yellow Warbler (1) were also captured.

SORA POND

The SOPO station was established in 2016, located between Sora Pond and Lister Lake near the intersection of Flicker Freeway and Harrier Highway trails (N53.37936° W112.51921°). The station is on the edge of a wetland in an early succession willow shrubland bordered by a mid-succession Trembling Aspen and Balsam Poplar Forest. The net lanes were divided into a wet loop, with nets 1-4 along the edge of Lister Lake, and a dry loop with nets 6-10 in the forest. However, due to a hot and dry summer, the water levels on the wet loop were substantially lower than in previous years. The SOPO station proved to be BBO's highest capture station this season, totalling 280 captures and 25 species. Banding occurred on June 12, June 21, July 3, July 12, July 26, and Aug 4, with a total of 300 Net-Hours producing 93.3 captures/100 NH. Yellow Warbler (78) were the most frequently caught, with Black-capped Chickadee (40), Red-winged Blackbird (38), and Least Flycatchers (36) not far behind. Notable captures included a Western Wood-Pewee (1), Red-breasted Nuthatch (1), Northern Waterthrush (1), Downy Woodpecker (1), Tennessee Warbler (4), Common Yellowthroat (2), Myrtle Warbler (6), and Swamp Sparrow (10).

LISTER LAKE

Also established in 2016, the LILA station is located near the Lister Lake lookout on the Harrier Highway trail (N53.37216° W112.52930°). The habitat is comprised of a mid-succession Trembling Aspen and Balsam Poplar Forest, bordered by a willow grassland that leads to Lister Lake. The net lanes are again divided into two loops, with nets 1 and 6-8 along the shore of Lister Lake and nets 3-5 and 9-10 in the forest. This season, net 2 was not operational due to heavy beaver activity through the net lane last year, resulting in a large trenches across the net lane and alterations to the trail system. With the decommission of net lane 2, which was historically a high capture net, the volume of captures was lower than in previous years, with a total of 149 captures and 23 species. Banding occurred on June 14, June 22, July 5, July 13, July 28, and Aug 5 with 260 Net-Hours and a capture rate of 57.3 captures/100 NH. Black-capped Chickadee and Least Flycatcher shared the title of most captured species at this station with 28 captures each. Other notable captures were Yellow-Bellied Sapsucker (2), Cedar Waxwing (1), Rose-breasted Grosbeak (1), Common Yellowthroat (1), Gray Catbird (3), and Baltimore Oriole (5).

Additional Banding

The BBO Tree Swallow grid continues to be incredibly productive, with staff once again banding nearly 300 chicks and a handful of adults, two of which were recaptures – one local, one foreign.

The staff also got the pleasure of banding a family of Mountain Bluebirds that took up residence in a Tree Swallow nesting box along the gravel road.

Summer staff Jon Van Arragon and Jana Teefy jumped at the opportunity to band Purple Martin nestlings on a private property near Devan, as well as a few colonies owned by local board members. Together they banded over 300 chicks!



*Purple Martin chick being banded.
Photo Credit: Jana Teefy*

Young Ornithologists Workshop

The 5th annual Geoff Holroyd Young Ornithologists Workshop was a resounding success. BBO hosted a delightful group of 10 youth from Alberta and British Columbia, who were keen birders, fast learners, and absolute troopers. They camped in tents in the clearing, woke up before dawn daily, assisted with banding, participated in afternoon activities, then shared cooking and dishwashing duties, all with enthusiasm and eagerness. In their week-long stay, the youth practiced songbird handling techniques, extracting birds from the mist nets, and learned the banding process - including applying the bands, ageing and sexing, taking various measurements, and ageing feather tracts. Throughout the program, 166 birds were captured, banded, and processed.



*Group photo from the Young Ornithologists Workshop.
Photo credit: Sarah Trefry*

In the afternoons, the YO's participated in various activities, including hands-on workshops on butterflies, moths and other insects with Dave Lowrie, as well as performing a CABIN (Canadian Aquatic Biomonitoring Network) benthic invertebrate survey and ecosystem assessment with Matt Turnbull. They also spent an afternoon at UpsanDowns falconry farm owned by Helen and Phil Trefry and an afternoon with wing specimens studying molt patterns. Their final day was a Big Birding Day, where they visited many birding hot spots with local birder Irene Crossland and BBO Chair, Geoff Holroyd, spotting a total of 110

species! Their species total for the week was an impressive 123 species!!

Thank you for being a terrific group of youths; it was a pleasure to host you!

- Henry Mingay
- James Tedder
- Evan Larson
- Evan Edwards
- Xavier Quantz
- Hazel Flesher
- Silas Fuellbrandt
- Aiden Flewelling
- Reagan Giesbrecht
- Cameron Montgomery

And thank you to Helen Trefry, the YOW organizer extraordinaire, with assistance from Geoff Holroyd, Jac Curry, Irene Crosland, Stephanie Thunberg, Brenda Dale, Diane Anderson, Inger Paulson, Alina Schneider, Linda Kershaw and everyone working behind the scenes to ensure the Young Ornithologists workshop was a success

Nest Searches

Although the staff did not complete formal nest sweeps, 12 nests were found incidentally throughout the forest, grassland, and wetland habitats. Highlight nests include; three American Robin nests - one on Ravens Roost, one on the outhouse trail, and one in a willow beside the LILA banding station; a Least Flycatcher nest along the SOPO net lane trail; a House Wren and a Yellow Warbler nest near the banding lab; a Hairy Woodpecker nest cavity was found along Flicker Freeway; 3 Gadwall nests, a Blue-winged Teal and a Mallard nest were found in the forest and willow stands during the Breeding Bird Census; and a Common Goldeneye took up residence in a nest box at the weir.

During the daily spring migration census, thousands of Franklin's Gulls were seen over Beaverhill Lake each day. The staff attempted to find a breeding colony on the lake, but the high water levels in the lake prevented them from the discovery. However, the staff were delighted with the water levels continuing to return to the lake.



*Least Flycatcher on her nest.
Photo credit: Jana Teefy*

Breeding Bird Census

The Breeding Bird Censuses were conducted in 25 ha grids within a grassland and a forest habitats. The habitats were each surveyed 7 times between June 5 and July 16, beginning at sunrise. Summer intern Ryan Corp conducted the grassland census surveys, and the BBO staff completed the forest census surveys. The data from each survey were compiled onto species-specific maps for the most encountered species, with the breeding territories determined by counter-singing and repeated songs or calls in an area on multiple surveys. These Breeding Bird Census reports will be published on our website in autumn.

Summer Internships

The BBO was thrilled to once again host interns this summer with funding from Carole and Gary Dodd and Alberta Conservation Association. The interns participated in our long term monitoring programs through standardized surveys throughout the summer to determine the breeding success, abundance and territory ranges of our local breeding; butterflies, bats, tree swallow, house wrens and grassland songbirds. The data they collected will be used to write reports to be published on the BBO website. The BBO would like to extend a hearty thank you to the interns for their contributions, hard work and dedication, to our funders, as well as a thank you to their mentors for their guidance.

Tree Swallow Nest Box Surveys

- Mentored by Shane Abernathy

- Sunny Guo
- Dominic Wong

House Wren Nest Box Surveys

- Mentored by Jana Teefy

- Claudia Cruz
- Sam Bennett

Breeding Bird Census

- Mentored by Jon Van Arragon

- Ryan Corp

Butterfly Surveys

- Mentored by Dave Lowrie

- Michelle Hoang

Bat Surveys

- Mentored by Erin Low

- Kayley Burke
- Celina Gerlich

Interesting Discoveries

With the hot temperatures and low rainfall this summer, the mosquito population was well below typical levels; the wasp population, however, was well above their typical. The staff were dismayed to discover that the wasps were destroying the mist nets for building material for their nests! Swarms of wasps were found on one particular mist net, with a wasp nest in construction right beside it. Unfortunately, the wasps chewed sizeable holes in the mist net, which will need extensive repair or replacement.

Furthermore, numerous ground wasp nests were found throughout the natural area, with more being found daily. Fortunately, skunks love wasp larvae! The local striped skunk family have unearthed quite a few nests during their nightly forages, which the staff have certainly appreciated.



A young Striped Skunk.

Photo credit: Jana Teefy

Visitors and Volunteers

Due to Covid-19 restrictions, the BBO was unable to host volunteers and visitors in their usual capacity. Instead, the BBO hosted visitors via ticketed events to stay within AHS guidelines while engaging the public. This helped keep the volume of guests and staff within recommendations for outdoor gatherings and provided a more intimate experience. The BBO was pleased with how it went and will be hosting similar events for fall songbird migration monitoring and owl banding.

Although the BBO was unable to accept volunteers during songbird banding, they received enormous help from a number of volunteers this summer. Bob “Bobcat” Schwartz, Christie Campbell, Peter Maguire, Frankie NcNorchuck, Matt Turnbull, and BBO board members Geoff Holroyd and Thea Carpenter stepped up to help the staff shovel and rake gravel for hours on end during the road repair. Additionally, volunteers Drenda Clyne, Wes Johnson, Jill and Scott Tansowny, Hudson King, Dmitri conducted bat emergence surveys on some of our active multi-chambered maternity roosts this year! An average of 55 bats were occupying these multichambered boxes, with 3 or more boxes occupied at a time. Thank you to everyone for your hard work and help this year!



*Volunteers and staff working to gravel the road access to the Natural Area that crosses the cattle pasture.
Photo credit: Geoff Holroyd*

Acknowledgements

The BBO would like to give a large thank you to all the board members who keep the organization running behind the scenes. We especially thank Phil and Helen Trefy for housing our educational birds and producing the Willet, John and Rose Scott for overseeing the building project, and Geoff Holroyd for overseeing the BBO's operations. We want to extend another thank you to MacLellan Carpentry for their hard work on constructing our new, still under construction, outhouse. Thank you to all the volunteers who have helped the BBO with various activities. Thank you to Irene Crosland for being a wonderful field mom to staff and to all the interns who are helping to keep BBO's long-term monitoring projects running. Thank you to Erin Low and Dave Lawrie for mentoring the bat and butterfly interns. The BBO and our local Red-winged Blackbirds would like to thank Steve and Kay from the Wildbird General Store for providing us with monthly support in the form of birdseed; we truly appreciate it!

The BBO's summer operations would not have been possible without support from our generous funders and donors. Our 2021 summer operations were made possible by financial support from the Alberta Gaming, Liquor and Cannabis Commission, Alberta Conservation Association, Edmonton Community Foundation, The Wildbird General Store, Bass Pro Shops and Cabela's Outdoor Fund, TD Friends of the Environment, Nature Canada's Labatiuk Nature Endowment Fund, Alberta Environment and Parks, Claystone Waste Ltd., Hauser Home Hardware in Camrose, Fortis Alberta, Eco Canada, Environment and Climate Change Canada, Employment and Social Development Canada, Beaver County, Clean Harbours, Epp Memorial, Bird Studies Canada's Baillie Fund, and Moonshine Café Tofield.

While we acknowledge personal donations in our annual report, we wish to thank the anonymous donation in Memory of Mary Weir and the donation by Carole and Gary Dodd in support of our internship program.

Appendix: Banding Summary Data Per MAPS Station

BLAB Station Species	Captures				Total
	Banded	Repeats	Return	Other	
Least Flycatcher	17	3	3		23
Amerian Robin	5	1	4		10
Baltimore Oriole	1				1
Red-winged Blackbird	8			3	11
Yellow Warbler	1				1
Hairy Woodpecker	1				1
Black-Capped Chickadee	1				1
Ruby-Throated Hummingbird				1	1
Total	34	4	7	4	49

SOPO Station Bird	Captures				Total
	Banded	Repeats	Return	Other	
Downy Woodpecker	1		1		2
Trail's Flycatcher	8			1	9
Least Flycatcher	33	3			36
Red-Breasted Nuthatch	1				1
Black-capped Chickadee	29	8	1	2	40
American Robin	1		1		2
Yellow Warbler	62	10	4	2	78
Clay-Colored Sparrow	8	4			12
Brown-Headed Cowbird	4			1	5
American Goldfinch	3		1		4
Swamp Sparrow	7	3			10
Red-Winged Blackbird	28	3	1	6	38
Warbling Vireo	10			2	12
Baltimore Oriole	1				1
Common Yellowthroat	2				2
White-Throated Sparrow		1			1
House Wren	1		1	1	3
Swainson's Thrush	1				1
Tennessee Warbler	4				4
Song Sparrow	6			2	8
Cedar Waxwing	2				2
Black and White Warbler	1				1
Western Wood-Pewee	1				1
Myrtle Warbler	6				6
Northern Waterthrush	1				1
Total	221	32	10	17	280

LILA Station Bird	Captures				Total
	Banded	Repeats	Return	Other	
Trail's Flycatcher	2			1	3
Least Flycatcher	23	3	2		28
House Wren	2				2
Warbling Vireo	6		1		7
Myrtle Warbler	4				4
Song Sparrow	6	1		1	8
Brown-Headed Cowbird	2	1	1		4
Baltimore Oriole	3		1	1	5
Red-Winged Blackbird	16			6	22
Yellow-Headed Blackbird	1				1
Yellow-Bellied Sapsucker	2				2
Black-Capped Chickadee	22	4		2	28
Cedar Waxwing	1				1
Yellow Warbler	11		3		14
White-Throated Sparrow	2		2		4
Rose-Breasted Grosbeak	1				1
American Goldfinch	3		1		4
Common Yellowthroat	1				1
Philedelphia Vireo	3				3
Grey Catbird	1	1		1	3
Red-Eyed Vireo	1				1
Tennessee Warbler	2				2
Black and White Warbler	1				1
Total	116	10	11	12	149