



Beaverhill Bird Observatory
Fall Report 2019

By
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Executive Summary

The Beaverhill Bird Observatory's fall migration monitoring was conducted by Head Biologist Sara Pearce Meijerink and Assistant Biologists; Emily Grose, Jeremy Lambe, Stephanie Thunberg, and Karambir Sign (all of whom worked from the start of migration until August 31st), as well as Connor Hawey and Christian Lunn (who joined us for September 1st until October 31st), and Jeremy Lambe and Josue Arteaga-Torres (who were nightly hires to help cover owl shifts). Songbird migration monitoring was conducted from July 20th to October 20th. Census was conducted daily until October 20th to visually account for our late migrants, even if we were unable to open the nets due to cold temperatures. Thirteen mist nets were operated by BBO Staff and recorded 1261 songbird captures of 58 species, resulting in an overall capture rate of 27.68 birds per 100 net hours. Owl migration monitoring ran from September 1st until November 7th and there was a spectacular number of owls this year with a total of 475 captures of 4 different species! The BirdSmart Education program began formally November 1st, but even in October we were providing educational presentations to the public with the help of our staff and volunteers.

Songbird Migration Monitoring

From July 20th to October 20th thirteen mist nets (2, 2X, 8, 9, 9X, 50, 51, 52, 53, 54, 55, 56, and 57) were operated for 6 hours daily starting 30 minutes before sunrise, weather permitting. Nets were not opened or were closed if temperatures were below zero degrees Celsius, wind was above 20km/hr at the net level, and/or if there was any precipitation. A total of 4555.25 net hours was accumulated despite the colder temperatures staff experienced in October (Table 1). 1262 birds were captured, 1040 of which were new bands. While our numbers weren't as high as last year, our species diversity was still fantastic with 58 different species captured!

Table 1. Numbers of captures, mist-netting effort, capture rates, and number of species caught during fall migration over the last twenty-one years at the Beaverhill Bird Observatory.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Captures	2745	1740	2095	1734	1315	975	1256	1969	1079	892	875
Birds Banded	2172	1433	1758	1464	1093	818	1089	1525	952	723	718
Net hours (NH)	2533.5	2843.25	3678.5	4173.75	3818	3229	2787	3476	3534	3400	3671
Capture Rate (birds/100NH)	108.5	61.2	56.9	41.2	34.4	30.2	45.1	56.6	30.5	26.2	23.8
Species Captured	58	55	56	62	57	60	59	63	52	58	51

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Captures	880	701	978	631	738	1641	1721	1918	2029	1261
Birds Banded	708	589	776	628	618	1393	1390	1620	1692	1040
Net hours (NH)	3190	3678	3683	3144	2565	4478	4174	4202	4128	4555.25
Capture Rate (birds/100NH)	27.6	19.1	26.6	20.1	28.8	36.6	41.2	45.6	49.2	27.7
Species Captured	60	53	57	45	46	58	53	52	62	58

The five most commonly caught species this fall were Myrtle Warblers (288 birds captured, representing 22.8% of all captures), Least Flycatchers (202 captures, 16.0% of total), Black-capped Chickadees (138 captures, 10.9% of total), Orange-crowned Warblers (94 captures, 7.5% of totals) and Tennessee Warblers (48 captures, 3.8% of totals). These five species account for 770 captures or 61% of the 1261 birds caught (Table 2).



Boreal Chickadee



Irene with a Merlin



Philadelphia Vireo

There were some noteworthy captures at the BBO this fall, including two Boreal Chickadees, a Bay-breasted Warbler, a Townsend's Warbler, a number of Philadelphia Vireos and a pair of Merlins! We often don't catch Boreal Chickadees or Bay-breasted Warblers as they prefer coniferous forest habitat, and the 4 Philadelphia Vireos were a huge surprise to see! The Townsend's Warbler was the first one captured in our history and the pair of Merlins was a delight for our staff and dedicated volunteer Irene Crosland to process.

Table 2. Total number and type of capture per species during the 2019 fall songbird migration monitoring at Beaverhill Bird Observatory (BBO). Repeat captures were banded in 2019 at BBO, Return captures were banded at BBO in a previous year, the

Foreign captures were banded at a location other than BBO, and Other were captures that were caught in a mist net but released un-banded.

Species	Banded	Repeat ¹	Return ²	Foreign ³	Other ⁴	Total
Alder Flycatcher	2					2
American Goldfinch	5		1	1	1	8
American Redstart	22	1			1	24
American Robin	2					2
American Tree Sparrow	43					43
Bay-breasted Warbler	1					1
Black-and-white Warbler	1					1
Black-capped Chickadee	48	73	13		4	138
Blackpoll Warbler	9					9
Blue Jay	1					1
Blue-headed Vireo	3	1				4
Boreal Chickadee	2					2
Brown-headed Cowbird					1	1
Canada Warbler	10					10
Cedar Waxwing	1					1
Clay-coloured Sparrow	5	2				7
Common Yellowthroat	4					4
Connecticut Warbler	1					1
Downy Woodpecker	10	5	3		1	19
Fox Sparrow	2					2
Golden-crowned Kinglet	3	1				4
Grey-checked Thrush	1					1
Grey Catbird	1					1
Hairy Woodpecker	2		1	1		4
House Wren	14	5	3		6	28
Hermit Thrush	4					4
Least Flycatcher	140	33	10		19	202
Lincoln Sparrow	6					6
Magnolia Warbler	14	3				17
Merlin	2					2
Mourning Warbler	1					1
Myrtle Warbler	283	2			3	288
Northern Waterthrush	7					7
Ovenbird	20					20
Orange-crowned Warbler	94					94
Philadelphia Vireo	4					4

Pine Siskin	2					2
Red-eyed Vireo	2					2
Red-breasted Nuthatch	13	1				14
Red-winged Blackbird	1					1
Ruby-crowned Kinglets	42	2			1	45
Sharp-shinned Hawk	1					1
Slate-colored Junco	21					21
Song Sparrow	3				1	4
Sparrow Sp.					1	1
Swainson's Thrush	35				2	37
Swamp Sparrow	1					1
Tennessee Warbler	44	3			1	48
Townsend's Warbler	1					1
Trail's Flycatcher	17					17
Warbling Vireo	9	3	2	1	2	17
Western Palm Warbler	2					2
White-breasted Nuthatch	6	2	1			9
White-throated Sparrow	10					10
Wilson's Warbler	14					14
Northern Flicker	1					1
Yellow-bellied Flycatcher	2		1			3
Yellow-bellied Sapsucker	2					2
Yellow Warbler	43	1			1	45
TOTALS	1040	138	38	3	45	1261

Staff surveyed birds along a 40 minute standardized census route every morning from July 20th until October 20th. Each year, census results are combined with daily banding totals and other incidental observations to produce a Daily Estimated Total (DET) of the number and type of species migrating through the Beaverhill Natural Area. This fall large flocks of adult and juvenile Black-crowned Night Herons along with Great Blue Herons were regularly spotted out by the weir. Thousands of Sandhill Cranes were heard and seen flying overhead on migration, along with thousands of Snow and Ross Geese, Greater-white Fronted Geese and Canada Geese. We also observed a decent number of Rough-legged Hawks this fall and Common Ravens, out by the lakebed. Before the season was over, a flock of Snow Buntings was spotted, marking that winter would soon be upon us.

Owl Migration Monitoring

Head Biologist Sara Pearce Meijerink and Assistant Biologists; Connor Hawey, Christian Lunn, as well as nightly hires; Jeremy Lambe and Josue Arteaga-Torres, and long-term volunteer Jac Curry, led BBO's owl migration monitoring program this fall. Four mist nets with a male Northern Saw-whet Owl audio lure were utilized from September 1st to November 7th, two mist nets with a Female Northern Saw-whet Owl audio lure were set from September 8th to November 7th, two mist nets with a Boreal Owl audio lure were set from October 8th to November 7th, and one mist net with a Long-eared Owl audio lure was set from September 1st to November 7th. Nets were only operated on evenings that were calm, warmer than minus 15 degrees Celsius, and relatively free of precipitation.



Long-eared Owl
Photo Credit: Irene Crosland

991.5 playback hours were accumulated this fall (384 playback hours for male Northern Saw-whet Owl, 326 playback hours for female Northern Saw-whet Owl, 196 playback hours for Long-eared Owl, and 85.5 playback hours for Boreal Owl). For a total of 475 owl captures (444 Northern Saw-whet Owls, 25 Long-eared Owls, 4 Boreal Owls and 2 Great Horned Owls) which resulted in a capture rate of 47.9 owls/100 playback hours (Table 3).

Table 3. Total number and type of capture per species during 2019 owl migration monitoring at Beaverhill Bird Observatory (BBO). Repeat captures were banded in 2019 at BBO, Return captures were banded at BBO in a previous year, Foreign captures were banded at a location other than BBO, and Other captures were caught in a mist net but released un-banded.

Species	Banded	Repeat ¹	Return ²	Foreign ³	Other ⁴	Total
Northern Saw-whet Owl	413	22	1	6	2	444
Long-eared Owl	25					25
Boreal Owl	4					4
Great Horned Owl	2					2
TOTALS	444	22	1	6	2	475

Education, Outreach and Other Activities



Steaks & Saw-whets 2019. Children and adults crowd in to watch Sara band a wild Northern Saw-whet Owl

During songbird banding, we had a number of visitors join us in the mornings, including a home school group and Lakeland College! Laurie Hunt also brought out her students from NAIT to do some vegetation surveys at BBO for their field school. The data they collected will hopefully help BBO map out the progression of forest succession that has occurred in the Beaverhill Natural Area in the last 35 years.

This year our annual fundraiser Steaks & Saw-whets was a huge hit! Hosted on September 27th and 28th, we sold out both nights (and accidentally oversold one night). With about 130 visitors joining us over the two nights, lots of fun was had by all! There were kids' activities and make-your-own owl headband craft, Rickie the educational Saw-whet Owl was there along with Hawkeye the educational Hawk Owl making his debut, and we successfully caught many wild owls so everyone got to witness the bird banding process up close and personal!

The owl banding season has become very popular and this year we hosted over 450 visitors on site. With a more structured schedule for visitors this year, General Public on Wednesdays and Thursdays, large groups to book Fridays and Saturdays, this gave staff a

couple nights a week off to focus on the office tasks associated with this research. Many of the large groups that came out for owls included; a Girl Guides Troop, MacEwan Biological Science Faculty, University of Alberta Outdoors Club, Tofield Library, NAIT Biology Science Club (2 nights), Alberta Chapter of the Wildlife Society (2 nights), City of Edmonton Staff, and the Augustana Wildlife Society.

Starting as early as October, our BirdSmart Education Program attended 2 birthday parties and provided presentations to children about Owls of Alberta. This program will be fully operational starting November 1st and is already booking fast with November fully booked and many of the winter months already half booked. It should be another wonderful education season!

Acknowledgements

All the conservation, education, research and outreach activities that the BBO achieves would not be possible without the ongoing support we receive from our funders, volunteers, board members and interns.

Thank you to everyone who made Steaks & Saw-whets another success this year: Geoff Holroyd, Helen and Phil Trefry, Laurie Hunt and family, Alyssa Bohart, Thea Carpenter, Emily Upham-Mills, BBO Staff, Andra Bismanis, Steve Anderson and Ron and Ruth Ball.

Thank you to our long-term volunteers this fall: Jac Curry who helped us in so many ways, not only in banding and managing visitors, but with providing us new information and ideas on how to continue improving the work we do. Irene Crosland who came out for banding, helping to run net checks, managed visitors and was our ever loving field mama making sure the staff were all doing ok. Al DeGroot for helping to take down our solar panels and being our electrical expert while we research a set up for the hopefully in the near future new lab building. Helen and Phil Trefry for providing a second home for the BBO Staff, an office space for us to work in, tea and great company, as well as housing our education owls.

Thanks to Geoff Holroyd for mowing the trails in the Natural area, winterizing the lab, editing grant applications and reports and for assisting BBO staff when required. Thank you to Helen Trefry for producing another amazing edition of the Willet, and to Laurie Hunt and Art Hughes of Fort Saskatchewan Naturalist's Club for coordinating our internship program. Thanks to Rose Scott for handling BBO's finances, and Darren MacGregor for looking after the BBO's website. A big thanks to all other board members who helped with various tasks like Steaks and Saw-whets, outreach events and banding. The BBO could not run without all the support we receive from our board members.

Thank you to Steve and Kay from the Wildbird General Store for donations and providing us with the monthly and winter in-kind support of bird seed. Thank you, Connie, Diane, Susan, and Ashley at the Tofield Library for your daily and weekly support and the office space.

Finally, the BBO extends a massive thank you to our funders. Our 2019 fall operations were made possible by financial support from the Alberta Conservation Association, Alberta Gaming, Liquor and Cannabis Commission, TD Friends of the Environment, Nature Canada's Labatiuk Nature Endowment Fund, Bird Studies Canada's Baillie Fund, the Alberta Community Environment Action Grant Program, Alberta Serving Communities Internship Program (SCiP), Edmonton Nature Club, Busy Bee Tofield, Clean Harbours (Ryley) and personal donations. We give a special thank you to the generous donations of Carole and Gary Dodds and another in memory of Mary Hughes Weir. THANK YOU!!



From Top to Bottom, Left to Right: Great Horned Owl, Boreal Owl, Northern Saw-whet Owl, Long-eared owl