



Beaverhill Bird Observatory Annual Report 2020

By
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Jon Van Arragon
And
Shane Abernethy

January 2021

THANK YOU TO OUR SPONSORS

The Beaverhill Bird Observatory (BBO) extends a massive thank you to our many funders who supported our projects and conservation efforts in 2020. We could not have accomplished so much if it was not for you! Thank you to; Alberta Community Environment Action Fund, Alberta Conservation Association Covid Relief Fund, Alberta Gaming, Liquor and Cannabis Commission, Birds Canada's Great Canadian Birdathon, Bass Pro Shops and Cabela's Outdoor Fund, Canada Summer Jobs, Carson Integrated, Claystone Waste, Clean Harbors' Community Enhancement Grant, ECO Canada Co-Op Program, Edmonton Community Foundation's EMPEO Fund, Edmonton Community Foundation's COVID-19 Rapid Response Fund, Environment and Climate Change Canada, FlipGive, Fortis Alberta, Hauser Home Hardware – Camrose, Moonshine Café - Tofield, Nature Canada's Charles Labatiuk Nature Endowment Fund, PayPal Giving Fund, SERVUS Feel Good Movement, Spencer Environmental Management Services, TD Friends of Environment, WildBird General Store, and personal donations. We give a special thank you to the generous donations made in memory of Mary Hughes Weir. THANK YOU!!

Note from BBO Chair, Geoff Holroyd

20-20 eyesight typically means perfect vision; 20-20 hindsight is slang for learning for past errors; last year 2020 took on a totally different meaning that will not be soon forgotten! For BBO we started the year with an ambitious plan to replace our main building with a larger, solar powered education and research center. With fund raising, donations and planning we thought we were in excellent shape; then the pandemic arrived.

While we have many reasons to wish 2020 to disappear, at BBO we can look at the year with pride and excitement as we admire our new building and anticipate all the great things that will occur there. We overcame many challenges, and with persistence and hard work, have a fabulous, solar powered building that will be ready for our use in spring 2021.

Despite the pandemic restrictions we were able to have staff conduct daily migration census, conduct many of our summer projects and have a successful autumn owl banding program. Staff adapted our BirdSmart education program to a webinar format and continued to inform students about birds, conservation and climate change.

Our endowment fund grew thanks to several donations which were matched by the Edmonton Community Foundation's donor. Under ECF we established the Young Ornithologist and Intern Fund to ensure future resources for these important youth programs. We made another deposit this month, January, which should be tripled by year end.

I thank you for your interest and support by being a member of BBO and your donations of time and money to continue our education and research programs. Our BBO board and staff continue

to work behind the scenes to keep our finances, permits and logistics current. I can't thank them enough for all their efforts to keep BBO functioning so that we can continue our education and research programs. A special thank you to John Scott for taking on the task of volunteer project manager for our new education center and whose efforts ensured that the building is being built well and efficiently.

Note from BBO Head Biologist, Sara Pearce Meijerink

Well, we made it through 2020! What a crazy year it has been. With the global Covid-19 pandemic shutting down the world in the late winter, and the uncertainty of how to proceed in the spring, research at the BBO was very different this year. We did not do any spring migration banding, summer MAPS banding, or fall migration banding due to the challenges of physical distancing and the fact that Shane Abernethy, our newest Assistant Biologist, was stuck in Ontario during the provincial lock downs. There was also the uncertainty of when our construction permits would come through to replace our lab building. We were unable to hire our 13 student interns, not only due to the pandemic, but also due to the new provincial government whose budget cuts slashed many funding programs. So instead our summer staff of Jon Van Arragon and myself had to buckle up, battle the never ending rains, and operate all 13 weekly intern programs between the two of us! By the time September rolled around, we had thankfully gotten our building permits so the demolition of our 36 year old building occurred just as Shane arrived and owl banding began. We were thrilled to finally be banding birds this year and even more so that we figured out a way to host the public in small Covid safe groups during our nightly operations. BBO is very proud that with hosting >360 visitors over 2 months, we did not have a single Covid scare. We are eternally grateful for all the support, volunteers and donations we have received this year. It was a financially challenging year for us all, and your generosity has touched us and helped to secure the future of our essential research that we do at the BBO. There's no way the BBO would be what is today, with our donors and volunteers.

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List of Executive and Contact Information

First Name	Last Name	Position	Year Joined the Board
Geoff	Holroyd	Chair	1984
Helen	Trefry	Vice-Chair	2014
Rose	Scott	Treasurer	2016
Thea	Carpenter	Recording/Membership Secretary	2013
Andra	Bismanis	Director at Large	2018
Laurie	Hunt	Director at Large	2015
Darren	McGregor	Web Designer	2005
Steve	Andersen	Director at Large	2016
Alyssa	Bohart	Director at Large	2018
Amelie	Roberto-Charron	Director at Large	2019
Julianne	Hayes	Director at Large	2019
Glen	Hvenegaard	Director at Large	2020
Emily	McLellan	Director at Large	2020
Jac	Curry	Director at Large	2020
	STAFF		
Sara	Pearce Meijerink	Staff	
Karambir	Singh	Staff - Spring	
Stephanie	Thumberg	Staff - Spring	
Jon	Van Arragon	Staff – Spring & Summer	
Shane	Abernethy	Staff – Summer onwards	

Contact Information:

Geoff Holroyd - chair@beaverhillbirds.com

Sara Pearce Meijerink – biologist@beaverhillbirds.com

Spring Report

Executive Summary during the Year of COVID-19

This year, research at the Beaverhill Bird Observatory was very different, as in many research stations across the world. Due to the COVID-19 pandemic, many of our research programs were altered and many of our public engagement events were postponed. This spring our research programs were managed by our Head Biologist Sara Pearce Meijerink along with Summer Student Jon Van Arragon. Assistant Biologists Karambir Singh and Stephanie Thumberg ran our BirdSmart education program digitally providing presentations to students and the general public via online webinars. There was no bird banding this spring, as it was not feasible to do so while maintaining a 2m physical distance from each other. Visitors were encouraged to stay away from our buildings to reduce the spread of the virus and since it was not possible to have volunteers or interns, BBO staff took on the responsibility of conducting the weekly surveys of our long term monitoring programs for birds, bats, and butterflies.

Double Daily Census

In replacement of Migration Monitoring this spring, BBO staff ran a double daily census. These censuses ran from May 1st until June 9th. The first census route is the same standardized route staff have surveyed in previous years, occurring within the first two hours of sunrise and took 40mins to walk. The second census route we standardized this year, occurring an hour after the first census, walking to the Weir along Duck Drive in order to increase our observations of shorebirds, waterbirds and warblers in the willow and marsh habitats. This proved to be very informative and our sightings this spring were phenomenal!



White-faced Ibises at the weir



Black-crowned Night Heron

Highlight species seen on migration census this year include the hundred of Snow Geese, Ross Geese, White-fronted Geese and Sandhill Cranes flying north for the breeding season. BBO staff heard a Black-throated Green Warbler on census and saw a couple of Northern Waterthrushes. Numerous Blackpoll Warblers were seen and heard, particularly in the willows near the weir. As well, a pair of Black-crowned Night Herons frequented the weir, along with the very exciting sighting of 100+ White-faced Ibises that have remained there for the entire spring!! It looks like

they will be breeding here this year, as due to high levels of precipitation and snow melt, Beaverhill Lake is full and the sedges and grass to the north of the Weir remain flooded!

Observations from first and second census were entered into our Daily Estimated Total (DET) data sheet (first census entered into the “census” column, second census entered into the “other observations” column). These were then combined to reflect the total number, and type of species migrating through the Beaverhill Natural Area and these records were posted on eBird. Other noteworthy observation include an increased number of Nelson’s Sparrows in the flooded lakebed and the presence of our two female Ruby-throated Hummingbirds (but no males to date).



Trail ‘Harrier Highway’ flooded due to high water levels and beaver activity. May 1, 2020

Intern Monitoring Programs

Due to COVID-19, the BBO was unable to engage university students to assist in our long term monitoring program internships. Instead, BBO staff conducted the weekly surveys, monitoring all our locally breeding Tree Swallows, House Wrens, Bats and Butterflies. Their surveys continue into the summer months.



Above: Jon walking the flooded ditches to survey the Tree Swallow Road Grid



Left: Sara with an unexpected bat roosting in our bunkhouse screen door!

Other Activities

Volunteer John Scott spent many hours building BBO two beautiful new Purple Martin colony boxes and on May 3rd, the first one was delivered to site. In the afternoon, John Scott, along with BBO treasurer Rose Scott, chair Geoff Holroyd and BBO staff managed to install and raise our new Purple Martin box, to the delight of the Tree Swallows! Over the course of the spring, many Tree Swallows were seen perching on top of this box before finally, a pair of Purple Martins showed up and claimed residency! Let's hope more decide to join them! This box will replace the old box that was erected a few years ago but needs too much repair.

Staff spent a lot of time this spring trying to keep out a resident skunk, who thought that burrowing under the lab building would be a good idea. Many burrowing attempts were blocked, to the frustration of both the skunk and our staff.

Jon, our summer student, spent a couple afternoons installing the newest Alberta Parks Signage to help improve visitor navigation and experience, including trail map signs with a "You Are Here" marker.



John and Geoff with our newly installed Purple Martin Colony Box



Out of the 20 Northern Saw-whet Owl nesting boxes located in the Beaverhill Natural Area, BBO staff were happy to report that 2 boxes were occupied this spring! Sara with help from volunteer Irene surveyed the boxes in early May and indeed, 2 females Saw-whet Owls poked their heads out to see what we were doing, and between the two of them, there were 11 eggs! Hopefully in the summer, our staff will be able to band some Northern Saw-whet Owl chicks!

Staff also spent time doing nest searching in the natural area and trail maintenance due to high winds and heavy beaver activity.

Female Northern Saw-whet Owl, peering out from her nest box at BBO.

Great Canadian Birdathon

BBO staff and volunteers did a socially distancing Birdathon this year. Together they birded throughout the Beaverhill Natural Area and by driving in a car convoy and using radios to communicate, they traveled to Amisk Creek, Tofield Lama Pond and Miquelon Provincial Park. 103 bird species were spotted and highlights included Short-eared Owl, Northern Shrike, Cinnamon Teal, White-faced Ibis and American Avocets. Together, along with other Birdathon members across the province of Alberta and even in Ontario, we raised \$695 for bird conservation!

Chair Geoff Holroyd and Vice-chair Helen Trefry also did a Birdathon for the BBO and saw 114 species! Highlights included Grasshopper Sparrow at Mundare Beach. Through their determination and experienced fundraising efforts, together they managed to raise a whopping \$5,000 for bird conservation! Way to go you two!!



BBO Birdathon Team! Birding at a social distance!

Big Birding Breakfast

Due to COVID -19 the Big Birding Breakfast was cancelled this year.

Summer Report

Executive Summary

Operations at the Beaverhill Bird Observatory were quite different this summer due to COVID-19. Head biologist Sara Pearce Meijerink and summer student Jon Van Arragon were responsible for the remaining field operations at the station. MAPS banding was unable to occur at any of the 3 stations due to COVID-19, and the Young Ornithologists Workshop had to be cancelled as well. Continued rain limited the amount of time staff could spend working in the field and made the access road impassable for periods of time.

Monitoring Avian Productivity and Survivorship (MAPS)

None of the 3 MAPS stations at the BBO were operated this summer due to COVID-19.

Migration Monitoring

As with the spring field season, BBO staff were unable to do migration banding since it was not feasible while maintaining 2 meters physical distance. Starting on July 20, staff once again began running double daily censuses: one along the standard census route and a second census out to the weir. While fall migration has not yet started, the staff have had some interesting sightings such as 26 American White Pelicans at the weir and White-faced Ibises.

Breeding Bird Surveys

From early June until early July, staff ran standardized surveys of the local breeding birds within the two established grids in the grassland and forest. Staff walked the entirety of each grid and recorded the position of detected birds, making special note of instances where 2 birds sang simultaneously or in quick succession. These sightings were then put on a map, and approximate territory boundaries were deduced based on the locations of simultaneous singing events. The purpose is to determine the density of nesting birds in the two habitats.



Sunrise over the natural area during one of the morning's census.

Intern Programs

BBO staff continued to monitor weekly the breeding Tree Swallows and House Wrens as well as the occupancy of bats in the bat roosting boxes. The bat surveys were very productive this year, with 3 maternity roosts in the natural area as well as over 100 bats in one survey! This is a dramatic increase from past years. Surveys of Tree Swallow and House Wren boxes were not conducted for a couple of weeks due to the rainy weather. Towards the end of the summer the nesting boxes were mostly unoccupied with the occupants having fledged, allowing staff to clean out the nest contents in preparation for the next field season.

Nestling Banding

BBO staff banded 186 Tree Swallow chicks throughout the summer from boxes in the spiral grid, road grid, and new grid. Unfortunately, the banding window for many of the nestlings was missed due to the constant rain. Two of the 20 Northern Saw-whet Owl nest boxes were occupied this season. The chicks from both nests were banded, with the exception of 2 chicks from one nest box whose eyes were completely shriveled closed. These chicks appeared to be quite weak and were taken to WildNorth where they unfortunately could not be saved.



Left: The staff and Irene banding the healthy Northern Saw-whet Owl chicks

Right: One of the blind Saw-whet Owl chicks

Young Ornithologists Workshop

Due to COVID-19, the Young Ornithologists Workshop had to be cancelled.

Rain

This summer was extremely rainy – and this created many issues for the BBO staff. The constant rainfall made it difficult for staff to find windows in which to do their weekly Tree Swallow and House Wren nest box surveys, as well as the breeding bird surveys since birds will stop singing when it's raining. This forced staff to spend more time doing office work both from home and in the field. Even more problematic was the access road through the front pasture, which was very muddy due to all the precipitation and became deeply rutted as a result of increased visitor traffic. Sara's car even got stuck in the ruts! To prevent further damage to the road, at the request of the landowner, staff closed vehicle access into the natural area and padlocked the front gate. Signs were installed on the front gate asking visitors to walk in due to the road being deeply rutted which many did!



Sara's vehicle stuck in the pasture. A big thank you to Geoff Holroyd for coming out and giving her a tow!

Other Activities



Sara and John marking the lease boundary

Staff continued working to ensure that the BBO lab is ready for demolition and reconstruction once the building permits go through. Sara, John Scott, and Geoff Holroyd marked the perimeter of the lease area around the lab in preparation for construction using a very expensive and accurate Trimble GPS unit. Staff also worked on maintaining the trails in the natural area, including mowing the local paths and net lanes and removing downed trees due to high winds and beaver activity. Most of the main trails were not mowed this summer since it was too wet and many sections remained flooded. Near the end of the summer, Jon replaced several Tree Swallow boxes in the spiral grid that were old and falling apart. Staff also spent plenty of time performing

nest searching throughout the summer season, the highlight of which was a Sora nest with 13 eggs! Baby Soras were calling in the vicinity of the nest later in the breeding season.

In July and August, Shane Abernethy, BBO's newest Assistant Biologist, worked from his home in Ontario, since he was 'trapped' there by COVID travel restrictions. Shane spent his office time organizing our banding Excel files, created a file of past employees, board members and volunteers, and analyzed bird weights and measurements looking for long-term changes and investigated changes in age ratios over the past 20 years. He arrived at BBO at the end of August ready to participate in our owl monitoring program.

Fall Report

Executive Summary

Beaverhill Bird Observatory's fall migration monitoring was conducted by Head Biologist Sara Pearce Meijerink, Assistant Biologist Shane Abernethy and summer student Jon Van Arragon. Jon worked with us until August 31st, and Shane joined us from Ontario on August 30th after working from home for two months. Songbird migration census was conducted between July 20th and October 20th. Due to safety considerations associated with the COVID-19 pandemic, we were forced to heavily modify our research programs. We did not run daytime songbird nets and instead focused our banding efforts on owls. We did continue conducting a daily 40-minute census until October 20th to visually account for daytime migrants, with an additional variable-length census at the weir to increase our observations. During owl migration monitoring, we hosted groups of up to 10 visitors, 6 nights a week. We enforced mask-wearing and distancing during the event and hosted hundreds of guests over the course of the season without incident. During the fall, we captured 219 owls of 3 species, a frustrating low number that may indicate a poor breeding season.

Daily Census

We continued our double census from the spring in an attempt to make up for our lack of daytime mist netting. High water levels at the weir allowed for large numbers of waterfowl and shorebirds, and an occasional evening visit saw hundreds of mixed gulls flying north over Beaverhill Lake. The water level at the weir remained exceptionally high, and it continued flowing until late September (it typically dries up early in the summer). With sustained high water levels, the vegetation in the Beaverhill Lake basin has begun dying back, exposing large expanses of open water, an exciting sign that the lake is coming back!

White-faced Ibis, a new breeder in the natural area, were a regular fixture at the weir, as well as flocks of Wilson's Snipe and Greater/Lesser Yellowlegs. Later in the season, Greater White-Fronted Geese and Snow Geese passed overhead in the thousands, and Lister Lake itself was populated by flocks of Bufflehead, Northern Shoveler, Gadwall, Ruddy Duck and Green/Blue-winged Teal. The occasional squeak and whinny of a resident Sora in the aptly named Sora Pond was also a reliable part of the morning soundscape, as were the inquisitive *chups* of Myrtle Warblers from the trees right into October.



Juvenile Black-crowned Night Heron

Notable sightings include the first Willet to be seen in the natural area in years and a flock of 23 Pectoral Sandpipers that passed through the day before Lister Lake froze over. A number of Black-crowned Night Herons also appeared to call the area their home during September: the occasional evening visit would spot up to nine of them passing through.

Owl Migration Monitoring

Our owl migration monitoring program, now old enough to vote, officially began its eighteenth year on September 1st, and ran until October 31st. With it began our first mist netting of this calendar year. However, it got off to a bit of a rocky start: technical issues with the audio player prevented us from running the Saw-Whet owl nets with a female lure until September 9th, and a recall on large raptor bands prevented us from opening the Long-eared Owl net until the replacement bands were received on September 10th. We ran four nets with a male Northern Saw-whet call, their eighteenth year of operation, and ran two more nets with a female Saw-whet call for their second year. In addition, we continued running our single net with a Long-eared Owl call and began running our two Boreal Owl nets on October 1st.

With our four players, we accumulated 1039.5 playback hours over the entire season (355.5 with a male Saw-whet call, 315.5 with a female Saw-Whet call, 229 for Long-eared Owls and 139.5 for Boreal Owls) and captured 214 Northern Saw-whet Owls, 4 Long-eared Owls and one Great Horned Owl, giving us a seasonal capture rate of 21.06 owls per 100 net-hours, which is less than half the capture rate of last year. This frustrating low may be due to a number of factors, namely the cyclical nature of owl populations, but we suspect that this year's breeding season was exceptionally poor, possibly the result of high precipitation levels in May and June that drowned out rodent populations resulting in low productivity. Our very first owl capture of the year was a Saw-whet in full juvenile plumage; for context, we have never captured a juvenile plumage Saw-whet during migration season in our head biologist's eight years at BBO, and although it represents a single data point, it may indicate a late breeding season.



Below: Northern Saw-whet Owl being removed from a bird bag to be banded



Table 1. Total number and type of capture per species during 2020 owl migration monitoring at Beaverhill Bird Observatory (BBO). Repeat captures were banded in 2020 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	Return	Foreign	Other	Total
Northern Saw-whet Owl	193	8	4	5	4	214
Long-Eared Owl	4					4
Great Horned Owl	1					1
TOTALS	198	8	4	5	4	218

On-Site Construction

This fall saw a highly exciting and somewhat bittersweet development at the BBO: our old lab building, in regular use by staff and volunteers since it was built in the 1980's, was demolished. It had served us well, but was beginning to show its age, was uninsulated, and was home to a few more unwelcome guests than most would be comfortable with. There are only so many mice and weasels in the pantry that even the hardest biologist can tolerate, after all. And so this fall, after months of permit negotiation, construction finally began on our new lab building and education centre. The new structure will be well insulated, with a wood stove providing heat during the cold fall and spring months, and will feature a second floor for indoor activities when that becomes feasible. It will also eventually sport a network of solar cells, powering a cell booster and what we will be the third operational MOTUS tower in Alberta!

Of course, the lack of a building presented its own suite of challenges to our staff. Our chair, Geoff Holroyd, was generous enough to loan us his camper trailer, which we used as our kitchen, office and lounge for the entire season. Visitors were treated to the slightly surreal sight of our propane refrigerator on cement blocks next to the camper trailer as they followed us on net checks. Luckily, the natural area doesn't have any raccoons or bears! Heat was also a concern during a cold snap in mid-October: with no way to generate heat, our drinking water, food produce and cooked food quickly began to freeze solid no matter where we stored it. We also learned, although we are unsure what we expected, that refrigerators are not capable of keeping their contents warm in sub-zero ambient temperature.



Our new education and research station under construction

Nonetheless, construction has been proceeding at a pleasing pace. While it is unlikely that the new lab will be ready for full use by the spring, it is now weatherproof, which was our general goal for the fall season. Any progress our contractors are able to make before getting snowed out will be considered a bonus. In the meantime, our staff continue to be excited by the possibilities this new building will offer.

Education and Outreach

While we were not setting mist nets for songbirds this fall, the natural area was still open to the public, and our staff informally engaged with visitors as they passed through. Due to safety concerns from the COVID-19 pandemic, we chose not to hold our annual Steaks and Saw-Whets fundraiser. However, we were able to roughly equate it in a rather different form by hosting visitors for owl banding six nights a week in groups of up to 10 a night. These small events surpassed our expectations in popularity so much that we had sold out our entire season within two weeks of the Eventbrite page going live, and had to open up two more nights a week to accommodate overflow. Even then, we had to disappoint a large number of people who were a couple days too late to secure a reservation.



Owl Banding Visitors posing with a Saw-whet Owl

Visitors to our owl banding nights were given an explanation of the banding process and shown many of the unique features of owls when one was captured. We also had a number of informal discussions on conservation, climate change and biology and the general work done by BBO. On nights when the net captures were slow, we had a backup plan: Rickie, our ambassador Saw-whet Owl, made regular appearances, much to the enjoyment of our guests. On some later nights in the season, our staff derived some amusement by appearing with Rickie already perched on our heads without comment, and waiting to see how long it took for people to notice. It turns out that a small, well-camouflaged bird is easy to overlook when you don't expect to see it.

In late October, we began putting out feelers to local schools to gauge interest in our BirdSmart program. We experimented with live webinars in spring, but we now have ambitious plans to transition our winter educational program to a fully digital format to help ease the uncertainty teachers are facing at this time. While interest at the date of writing has been limited, it is understandable that teachers are reluctant to commit to anything at this time and we expect interest to surge later in the season.

Weekly Updates

Since there was no bird banding until the fall, we did not publish weekly updates until the start of September. These updates were written by Shane Abernethy, our newest assistant biologist, and he did a wonderful job keeping the public informed on what work we were doing and how the owl migration monitoring season was going. Be sure to follow us on Facebook, Instagram and Twitter where we post these updates in 2021! To view our fall weekly updates from 2020, visit the banding summaries page of our website: <http://www.beaverhillbirds.com/updates/banding-summaries/>



Intern Summaries

Summaries of this year's intern project data were written by Jon Van Arragon, Shane Abernethy and Sara Pearce Meijerink, and were published on our website: <http://beaverhillbirds.com/publications/student-interns/>

BirdSmart Education Program

The BBO BirdSmart education team, led by Sara Pearce Meijerink, Stephanie Thunberg and Karambir Singh, provided in-person presentations across the province of Alberta from November 1st, 2019 until COVID-19 prematurely closed our in-person programming on March 14, 2020, coinciding with Alberta Health Services recommended school closures and limitations on afterschool programs and social gatherings. Our staff then diligently went to work, converting our presentations to webinar formats and we began providing free digital webinars to the public through Zoom and to digital classrooms through Google Meets from April 9th, 2020 until June 25th, 2020.

Overall, 136 in-person presentations were given to school audiences this winter ranging from pre-kindergarten to Grade 12. Approximately 4,452 students and 465 adults from 51 different schools were reached across all of Alberta! Presentation topics focused on climate change, owls of Alberta, and the main threats facing birds.

Staff and volunteers also gave 26 presentations to non-school groups which reached approximately 12,225 people at different adult and youth group organizations. Youth groups included Boy Scouts and Girl Guides, while adult groups included senior's homes, universities, museums, churches and clubs. Our staff attended 11 events this winter reaching a total of 2,177 people. These events included; birthday parties, retail store events, science nights, family carnivals, university events, craft fairs and sporting events. During all events staff manned a booth, provided public education and interpreting, and were accompanied by a live owl or falcon.



Karambir presenting to junior school students about Wetland Conservation and Climate Change

Through our digital webinars an additional 1,074 students, 95 adults, and 536 unknown-age individuals were reached from all around the country including; Fort Saint John (British Columbia), Barrie (Ontario), Viking, Medicine Hat, Cochrane, Jasper, Sherwood Park, Morinville, Drumheller, Spruce Grove, Ryley, Athabasca, Slave Lake, Leduc, Edson, Olds, Mundare, Calgary and Edmonton.

To sum it all up, the total outreach for the 2019/2020 BirdSmart education season reached 16,105 students, 4,383 adults and 536 unknown-age webinar attendees, or you can say 21,024 individuals!

Karambir also published 13 new climate changed blog posts this winter on our website which were shared through our social media with the public. You can read these blogs to learn how climate change is impacting our natural world and how you can help reduce your carbon footprint at: <http://www.beaverhillbirds.com/publications/climate-change-blog/>



Sara presenting at the Oil King's Hockey Hooky Game, on the big screen to an audience of 9,000 students and 2,000 adults about Bird Conservation & Climate Change

Willet Newsletters

The Willet is the official newsletter of the Beaverhill Bird Observatory. Three editions are produced annually, containing information about upcoming events, stories from the field and more. In 2020, these 3 issues were produced by BBO Vice-chair of the Board, Helen Trefry, and sent out to our membership. Helen Trefry has been writing and editing our Willet Newsletters for the last 6 years, and has done a wonderful job at that! If you have enjoyed reading our Newsletter, you have her to thank!

If you would like to read editions of past Willets from 2020 or later, click the following link:
<http://www.beaverhillbirds.com/publications/the-willet/>



Helen Trefry, our amazing Vice-Chair, with Moxie, one of her Peregrine Falcons that she hunts with for falconry

Recent Publications

This year the BBO was involved in one more scientific publication! Dr. Geoff Holroyd along with Assistant Biologist Stephanie Thunberg assisted Myrna Pearman with a publication on how the first arrival date of Mountain Bluebirds has moved forward by almost 2 weeks over the last 50 years! Here is where to find this publication

<https://westernfieldornithologists.org/publications/journal/journal-volume-51-1/>

Pearman, M., L DeGroot, G.L. Holroyd and S. Thunberg. 2020 Earlier spring arrival of the mountain bluebird in central Alberta, Canada. *Western Birds* 51:47–58, **2020**; doi 10.21199/WB51.1.4

A complete list of BBO publications can be found at
<http://www.beaverhillbirds.com/publications/publications/>

Financial Report

Beaverhill Bird Observatory Society

PROFIT AND LOSS
January - December 2020

	TOTAL
INCOME	
210 Endowment Income	5,690.00
211 Subsidy Income	21,721.90
400 Donations	90,454.98
401 Memberships	610.00
402 Presentations and Talks	12,630.00
403 Events	11,170.64
404 Grants	69,800.00
405 Casino Interest Income	265.65
406 Miscellaneous	15.09
407 Casino	76,052.62
409 Bank Interest	2,615.79
420 Sales of Product Income	3,238.21
499 Uncategorized Income	0.00
Total Income	\$294,264.88
COST OF GOODS SOLD	
430 Cost of Goods Sold	2,072.74
Total Cost of Goods Sold	\$2,072.74
GROSS PROFIT	\$292,192.14
EXPENSES	
500 Small Equipment and Supplies	6,637.33
501 Bank, PayPal, Canada Helps Charges	1,129.72
503 Conference Expenses	471.33
505 Events Expenses	2,150.02
507 Occupancy Costs	900.23
508 Laboratory Supplies	816.05
509 Office Expenses	3,182.00
510 Licenses, Dues and Memberships	55.00
511 Repairs and Maintenance	5,919.85
512 Salaries	
Biology Assistants	23,903.98
Employer CPP and EI	4,474.03
Employer WCB	0.50
Seasonal Assistants	36,385.14
Senior Biologist	48,900.00
Total 512 Salaries	113,663.65
513 Travel	
Staff Travel	2,747.53
Volunteer Travel	2,179.06
Total 513 Travel	4,926.59
514 Bursaries	600.00
515 Presentation Expenses	2,489.25
Total Expenses	\$142,941.02
PROFIT	\$149,251.12

Beaverhill Bird Observatory Society

BALANCE SHEET
As of December 31, 2020

	TOTAL
Liabilities and Equity	
Liabilities	
Current Liabilities	
Accounts Payable (A/P)	
300 Accounts Payable	0.00
Total Accounts Payable (A/P)	\$0.00
310 Prepaid Revenue	0.00
331 GST Payable	-9,068.13
350 Deferred Casino Income - Current	27,850.23
352 Deferred Grant Income - Current	44,639.61
Total Current Liabilities	\$63,421.71
Non-current Liabilities	
351 Deferred Casino Income - Long-Term	0.00
353 Deferred Grant Income - Long Term	28,332.48
Total Non-current Liabilities	\$28,332.48
Total Liabilities	\$91,754.19
Equity	
395 Net Assets - Donor Restricted	12,000.00
396 Net Assets - Board Restricted	60,000.00
397 Net Assets Restricted for Endowment	155,696.68
398 Unrestricted Net Assets	-121,609.03
Retained Earnings	277,667.60
Profit for the year	149,251.12
Total Equity	\$533,006.37
Total Liabilities and Equity	\$624,760.56

Acknowledgement of Donors

BBO is very thankful for the many donors who included us in their charitable donations in 2020, especially during this challenging year of the COVID pandemic. Here is a list of everyone who donated \$50 and more. We also thank those who donated less, but space does not allow a list of others. Your contributions are greatly appreciated. Our apologies for any omissions.

<p>Companies and Organizations >\$1000 Alberta Conservation Association Covid Relief Fund Alberta Community Environment Action Fund Bass Pro Shops and Cabela's Outdoor Fund Birds Canada's Great Canadian Birdathon Canada Summer Jobs Claystone Waste Clean Harbors' Community Enhancement Grant ECO Canada Co-Op Program Edmonton Community Foundation's EMPEO Fund Edmonton Community Foundation's COVID-19 Rapid Response Fund Environment and Climate Change Canada Fortis Alberta Hauser Home Hardware - Camrose Nature Canada's Charles Labatiuk Nature Endowment Fund SERVUS Feel Good Movement Spencer Environmental Management Services TD Friends of Environment</p>	<p>Donors >\$1000 In Memory of Mary Hughes Weir In Memory of Stuart and Peggy Scott Brad Abernethy Andra Bismanis Mark Boyce Bill Carlson Irene Crosland Geoff Holroyd Natalia Labatiuk Kevin Methuen Erma Regehr Petra Rowell Rose and John Scott Phil and Helen Trefry Gonzalo Cristian Rosa Vasquez</p>	<p>Donors >\$500 - \$999 Catherine Chan Lynne Dickson Kim and Jason Hope Bill Paulsen Kate Reed Brenda Wale</p>	
<p>Companies and Organizations >\$500 - \$999 Wild Bird General Store The Moonshine Café Carson Integrated</p>	<p>Donors >\$50 - \$499 Samantha Allan Anonymous Peter Balagus Ron & Ruth Ball Elisabeth Beaubien Gerard Beyersbergen Glen Bowe Angus Bryan Sheila Buchanan Audrey Cherevaty Elizabeth Clement Dawne Colwell Lynn and Duane Curry Vivek Dabral Jess Dacyk Kathleen Daintith Leslie Duncan Erica Dunn Burkhard Eibich Michele Eickholt Leanne Erickson Cam Finlay Patricia Fries Stephanie Gibeau</p>	<p>Stella Gillespie Arnold Grandt Emily Grose Victoria Hansen John Holroyd Les Holroyd Lynn Holroyd Alison Hoselton Douglas Hube Sarah Hudson Kent Hunter Glen Hvenegaard RoseMarie Jalber Adrian Jones Linda Kershaw Janos Kovacs Priscilla Lai Beverly Lucki Graeme MacLellan Jennifer Martin Michael Marvan Paul Mass Anne McIntosh Gerald McKeating</p>	<p>Gerry Mowatt Joanne Moyer Stan Nordstrom Inger Paulsen Richard Peterson Terry Poth Lisa Takats Priestley Bill & Marion Reynolds Robert Sabulka Dwain Sager Jorge Sanz Rose & John Scott Eldon and Elaine Siemens Jennifer Solem Alan & Lucile Spiller Delores Steinicht Delainie Sutherland Janis Vos Eric Wallace Rebecca & Will Warren Michelle Wasyliw Megan Westervelt Erin Wood Olga Yanishewski</p>
<p>Companies and Organizations >\$50 - \$499 PayPal Giving Fund FlipGive</p>			