Beaverhill Bird Observatory

The WILLET

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Editor Richard Hedley

A message – and challenge – from the chair

As you will read in this issue of the Willet, BBO continues to expand its monitoring, education and research programs, thereby increasing our reach with both the public and the scientific community. This growth would not be possible without the support of our members. In 2019, BBO established an endowment fund with the Edmonton Community Foundation (ECF) which has grown to over $345,000 in only three years, thanks to your generous donations and to matching funds from an anonymous donor at ECF. This endowment fund now generates over $10,000 per year for BBO.

We want to continue growing this fund. If we can raise $50,000 this year, then the ECF donor will match that amount up to 1:1 and we will have almost half a million dollars in our endowment fund, generating funds to support BBO forever.

As Chair, I issue a challenge to members: I will match the first $10,000 in donations. The BBO board will likewise match your donations. **Your donation will therefore be tripled by Geoff and the board, then doubled again by the ECF Matching Program for Environmental Organizations. Every $1,000 donated will result in $6,000 in our endowment fund.** Thank you in advance for your contribution.

An alternative option is to donate securities (stocks, bonds or mutual funds) directly to the charity as opposed to selling them and donating the proceeds. By doing so, the capital gains tax can be eliminated. This means more money for the BBO and a greater charitable tax credit for you. In Alberta, in-kind gifts of shares and mutual funds may provide up to $240 of additional tax savings for every $1,000 of capital gain than would be the case if you sold the shares and donated the proceeds to charity. If you would rather donate securities, we encourage you to talk to your financial advisor before making such a donation.

CLICK HERE to donate to the BBO Endowment

Warm regards,
Geoff Holroyd, PhD
Chair, Beaverhill Bird Observatory

An exciting year wraps up

Deep snow covers the laboratory. Photo credit: Myrthe Van Brempt

After a warm October, early November has seen the mercury finally drop and the snow start to accumulate. And so ends a busy year of bird banding, monitoring, research and education activities. As you will read in this issue of the Willet, BBO has been bustling. Nature, meanwhile, has paid us back with new discoveries and surprises – including a Bald Eagle stopping in from Colorado! The breadth of articles in this issue is testament to the commitment of the staff and volunteers to the BBO operations, and the generosity of the donors for helping fund a variety of recent station upgrades. We are deeply grateful for everyone's dedication, and for the public's continued interest in birds and conservation.

The 2022 fall season at BBO was a resounding success!

The BBO staff operated 13 standard nets and 7 experimental nets for songbird migration monitoring, capturing almost 3,000 birds with the highest species diversity of 71 species on record in the BBO's history. The experimental nets continue to outperform the standard nets with a 10-fold increase in capture rate and higher species diversity. Weather was unseasonably mild and warm, allowing the staff to reach higher net-hours into October than in previous seasons.

During owl banding, staff operated 9 nets and 4 owl audio lures targeting three species of owls. This was a highly productive year for Long-eared Owl captures (21) and a low capture year for Northern Saw-whet Owls (235). Despite promising weather throughout October, the owl banding season ended abruptly on November 1st with a weather warning and heavy snowfall.

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Territorial Acknowledgement: Beaverhill Bird Observatory is located within Treaty 6 territory, a traditional gathering place for diverse Indigenous Nations, including the Plains Cree, Metis, Blackfoot, Saulteaux and Nakoda Sioux People, who are the original stewards of the Beaverhill Lake area since time immemorial.
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A sampling of the owls captured during owl banding season. Left: Ten Northern Saw-whet Owls. Right: A Long-eared Owl. Photo credit: Jana Teefy.

In addition to banding, the staff hosted over 1,000 visitors through a variety of public events over the fall season, described below. Then, in the last week of the field season, staff, board members, and volunteers demolished Nuthatch Nest, the last of the historical BBO buildings, to make way for the new and improved bunkhouse. The staff have packed up, winterized the lab, and moved operations into the city in preparation for the winter BirdSmart Education season.

To read about more about the fall banding activities, and other fall events, read the full Fall Report here.

A new Marsh Monitoring Program at BBO

Beaverhill Lake, its inlet, Lister Lake, and the surrounding uplands are important breeding grounds and migration staging areas for over 270 bird species each year. The lake is one of just 37 wetlands in Canada to be recognized under the Ramsar Convention as a wetland of international importance, thanks to the variety and abundance of bird species using the habitats in and around the lake. Despite its proximity to the lake, BBO tends to focus its bird monitoring efforts on upland species: songbirds and owls. This year, Assistant Biologist Jana Teefy set out to fill this gap by launching a new Marsh Monitoring Program at BBO.

The program follows a pilot project conducted in 2017 by former staff member Jeremy Lamb. The goal is use point count surveys to better document some of BBO's most elusive summer residents, namely Soras, Virginia Rails, Yellow Rails, American Bitterns, Nelson's Sparrows, and grebes. To that end, this year was a resounding success. Six of ten focal species were detected, including at least nine individual Virginia Rails – a species that is very seldom detected in such numbers in Alberta. A notable absence was the Yellow Rail, which was not seen at the station this year, but has been present in recent

years. All the more reason to keep the program going to try to get a better handle on the dynamics driving these species' populations.

Satellite imagery showing locations monitored for the Marsh Monitoring Program (yellow points).

For a full report summarizing the first year of the Marsh Monitoring Program click here.

The return of Supper and Saw-whets


A crowd gathers to observe a falcon at Supper and Saw-whets.
Photo credit: Geoff Holroyd.

After the cancellation of Steaks and Saw-whets due to Covid for the past 2 years, the event returned this year on September 24th and 25th, albeit with a few changes. First, the steak was dropped and replaced by a variety of vegetarian dishes, making the event

accessible for those who are not meat eaters, and saving the waste of meat. Thus, the event has a new name: “Supper and Saw-whets” replacing the former “Steaks and Saw-whets”. Also, for the first time the event featured live music: Mallory Chipman and Brett Hansen, from Edmonton, sang and played acoustic guitar while attendees ate supper. With great weather, live music and the sound of migrating waterfowl overhead it made for a great evening for the sold-out event. A Peregrine Falcon was on hand for visitors to enjoy until it turned dark and owl trapping became the focus. Thanks to the Board members and other volunteers that helped with the cooking and serving that night.

Left: Heather McPherson, Member of Parliament for Edmonton-Strathcona, attended the Saw-whet Supper with her children and posed with our educational Peregrine Falcon. Right: Attendee Henry Pass holds the Peregrine as the evening sets in. Photo credit: Geoff Holroyd.

A wide-angle shot of the festivities.

Farewell and thank you to outgoing staff member Shane Abernethy

Shane educating visitors about bird banding, ecology, and conservation.

It is with some sadness that the BBO says goodbye to Shane Abernethy, who has worked as an Assistant Biologist for two years running. The BBO thanks Shane for his hard work, tech skills, handiwork, and especially his contributions to BBO with his BirdBytes videos. His BirdBytes videos are very popular and gained him and us a following on TikTok and other social media. His voice was lyrical, the bird stories were interesting and entertaining, and the flows of the videos were captivating. Beyond his filming activities, Shane was always up early for songbird banding, or late for owl banding. When our sink backed up he was on the ground determining why and fixing the outlet. He did a detailed analysis of our songbird weights and measurement and found that the shape and size of our birds has changed over the past thirty years due to climate change; stand-by for a publication on his findings. Shane was always the go to guy with tech problems. He got our MOTUS station on line, and started live video cam sessions while banding. He found an app that allowed us to link two old digital lenses to a smart phone so we could look into and monitor Least Flycatcher nests. Shane, we wish you all the best in your future endeavours in Ontario and beyond.

Big thank-you to Pete Kershaw for the new weather station!

BBO extends its sincerest gratitude to Pete Kershaw, who donated – and installed! – a new weather station. The new station will be a big improvement for how the staff collect their daily weather data. Thank you Pete!

Left: Pete Kershaw setting up the new weather station. Right: Pete risks life and limb to install the station!

Thank you to Picture This Framing for a generous donation!

We thank Picture This Framing & Gallery, located in Sherwood Park, for their generous donation to BBO. The donation came at an event held in the gallery on September 20, featuring a presentation by artist and Bison expert Wes Olson, author of the book *The Ecological Buffalo: on the trail of a keystone species*. Wes suggested the donation be made to BBO, so thanks also to Wes for the thoughtful idea!

Picture This Framing and Gallery making a generous donation to the BBO.

For your viewing pleasure: a presentation to the Edmonton Nature Club

On October 20, Head Biologist Sara Pearce Meijerink, visiting researcher Myrthe Van Brempt, and BBO Chair Geoff Holroyd gave a presentation to the Edmonton Nature Club titled “Saw-whet Owls: residents, migrants or vagrants; an avian enigma”. The talk drew on decades of research at BBO, as well as Myrthe’s MSc research on Saw-whets in eastern North America.

Head biologist Sara Pearce-Meijerink describes the future of migration monitoring to the Edmonton Nature Club.

Sad you missed this exciting talk? You’re in luck: a link to a recording of the talk is available at this link.

Nuthatch Nest no more! A new bunkhouse will be built.

It was a bitter sweet day on October 23 when a group of Board Members and volunteers gathered with hammers and pry bars in hand to demolish the bunkhouse fondly named “Nuthatch Nest” the last of the original BBO buildings to be replaced. The aging building with poor insulation was past its best-before date.

Board members and volunteers demolish the old Nuthatch Nest bunkhouse.

We gathered at 9am to swing hammers and crowbars. By lunch time just the floor was left; solidly built, the floor took more effort than the rest of the building. In November Colin MacLellan started construction of a new, three room bunkhouse. Each room will have bunkbeds and a tiny desk for personal gear. Separate rooms will allow staff, volunteers and university students to have their own space and most importantly, be able to sleep when others are on a different shift.

Your donations to pay for this replacement of our last old building will be appreciated. With new infrastructure we can more easily accommodate the public and all our research projects. Thanks for board members and partners: Christie and Pete Campbell, Pat and Cathy Chan, Jac Curry, Helen Trefry, Warren Finlay, Sara Pearce Meijerink, Myrthe Van Brempt and Geoff Holroyd. CLICK HERE TO DONATE.

Strategic Plan

In addition to the regular banding activities and the many events throughout the fall, the BBO board has been hard at work developing a new strategic plan. The plan describes the vision and mission of the BBO, outlines five core values, and several objectives for the organization to focus on in the near future. The plan even looks amazing, thanks to the fantastic artwork of board member Alyssa Bohart, who spruced up the document.

The final version of the plan can be accessed here.

A detailed investigation of Least Flycatchers at BBO

By Myrthe Van Brempt, Geoff Holroyd, Glen Hvenegaard & Jon Van Arragon

North America lost 2.9 billion birds over the last five decades. For birds spending all or part of their life cycle in Canada, the largest population declines have been observed in shorebirds (-40%), grassland birds (-57%), and aerial insectivores (-59%). One aerial insectivore experiencing steep population declines is the Least Flycatcher (*Empidonax minimus*) which lost 53% of its population since 1970. Despite this long-term decline, large numbers of Least Flycatchers breed each year in the Beaverhill Natural Area. In fact, they have been the species banded most frequently at the BBO since its founding in 1984. Given their abundance here, we initiated a study analyzing the productivity of Least Flycatchers within the Beaverhill Natural Area in the spring of 2022. We aimed to understand habitat preferences in relation to breeding success and make comparisons to populations elsewhere in North America.

A Least Flycatcher on its nest.

We found 33 Least Flycatcher nests and monitored 28 of them until fledging. The nest success rate of 79% was much higher than success rates documented in other studies in North America. In addition, we recorded a breeding density of 4.0 territories/ha. This is double the breeding densities found in other studies and likely reflects good breeding conditions in the Beaverhill Natural Area. We found an average clutch size of 3.89 eggs per clutch, which is comparable to the average found across North America.

The researchers at work.

Nest sites were characterized by dense canopy cover and low shrub cover, similar to earlier studies. Ongoing forest succession in the Beaverhill Natural Area increased suitable habitat for Least Flycatchers over the past few years and may contribute to the high breeding density and high productivity found at BBO. Nests were more successful in taller trees than in shorter trees and in living trees than dead trees. No significant relationships were found between nest outcome and any other habitat variables included in our analyses.

The conservation of this declining aerial insectivore will depend on management of its habitats across the annual cycle, including breeding, migration and wintering habitat. If the Least Flycatchers continue to decline across Canada, they may end up being listed under the Species at Risk Act, which would require the federal government to identify, map, and protect the species' critical habitat. We suggest that habitats with high densities of nesting Least Flycatchers that are highly productive should be used to define its critical habitat. Our data shows that the Beaverhill Natural Area would qualify as critical habitat for this species.

Fledglings overflow from a nest.

Least Flycatcher eggs in a nest.

This study only lasted one season and needs to be replicated to confirm whether the high productivity and high densities found in the Beaverhill Natural Area hold in future years. More broadly, additional studies are needed on the Least Flycatcher's preferred habitat and how the species interacts with its environment. Understanding how breeding success is influenced by environmental factors, including weather, food supply, and predation risk as well as the location of the nest in relation to habitat, is important for conservation actions to be effective in the future.

To read the full article please click here.

A Colorado visitor to Beaverhill Lake

Geoff Holroyd, Chair, Beaverhill Bird Observatory.
Reesa Conrey, Colorado Parks and Wildlife.

In late October, Colorado Parks and Wildlife contacted BBO asking for our help to look for a young Bald Eagle that had wandered north after fledging from her Colorado nest. When her GPS backpack had not called home for a few days and the previous few locations suggested relatively little movement, they feared the worst. Intrepid BBO volunteer Irene Crosland took up the challenge and took a photo of a young Bald Eagle near Mundare Beach on the east side of Beaverhill Lake.

Reesa Conrey, Colorado Parks and Wildlife, wrote that the eagle is part of a Bald Eagle research project that was started in the summer of 2020. The eagles are tagged with a GPS/GSM transmitter that calls in using cellular communications, like a smart phone that calls home! This eagle was a juvenile female tagged on 19 June 2022 who dispersed in July and traveled up to Canada arriving at Beaverhill Lake on August 1, a journey accomplished in just 12 days! By the end of September the eagle's signals were focused on the south end of the lake, but not moving much and not giving a strong signal, both signs that the eagle could be dead. However, Irene's photo clearly shows a band on the same left leg as the eagle was banded. An alternate hypothesis is that the eagle is feasting on the thousands of geese and ducks that inhabit Beaverhill Lake at this time of year. As those of you that have birded the area know, cell coverage can be spotty in this area. At the Bird Observatory we installed an 80' tower to get good cell coverage!

The Bald Eagle being released in Colorado. Photo credit: Mike Lockhart

The Colorado Parks and Wildlife study is focused on the 100+ breeding pairs of bald eagles that nest in the Front Range corridor of northern Colorado that is experiencing rapid human population growth. A growing population of eagles overlaps with the concentration of human development and infrastructure. This project will examine how eagles are using the landscape and which impacts they will tolerate and which they will not as development continues for residential and commercial buildings, agricultural conversion, sand and gravel mining, oil and gas wells and facilities, solar and wind energy construction, transmission lines, cell towers, road and boat traffic, and all the other impacts that humans have. Is it any surprise that the young eagle fled the area and is hopefully enjoying the relative peace and quiet of the Beaverhill Lake Heritage Rangeland?

The juvenile Bald Eagle's track from Colorado to Beaverhill Lake.

When the eagle was tagged she had been out of the nest for three weeks. Although they were targeting the adults, she wouldn't give way to her parents at the trap site so Reesa's team decided to trap her on 19 June and see where she went. She left the immediate area in mid-July at 6 weeks of age and traveled to South Dakota. After a brief return to the Colorado Front Range, she headed north on July 20 moving quickly through Wyoming and Montana into southern Alberta. By August 1 she had turned east and found Beaverhill Lake. This eagle's journey is a reminder of how birds are dependent on habitats over a wide area. Eagle-eyed Irene saw up to 6 eagles on her outings. David Grinevitch reported 10 eagles along the south shore, while Garth Turner counted 11 at Mundare Beach on the east shore, both on eBird.com. With the abundant waterfowl, how many eagles are around the whole lake in autumn? We might have assumed that they were local young eagles, not knowing that even young birds can travel long distances in search of suitable habitat and abundant food. This eagle's long stay at Beaverhill Lake further emphasizes the importance of this Ramsar Convention, Important Bird Area. We can only wonder where the other eagles originated!

The Coloradan Bald Eagle, still sporting a band on its left leg at Beaverhill Lake. Photo credit: Irene Crosland.

A few more exciting fundraising activities:

Giving Tuesday

Mark your calendar! November 29th is **#GivingTuesday**, a special day dedicated to supporting your favorite charities. This year, consider donating to Beaverhill Bird Observatory (BBO) and help build our endowment fund, with 6-fold matching as described above in the message from the Chair. Our $50,000 goal can't happen without your generosity and support.

Edmonton Oilers fundraiser

Are you an Oilers fan? Now you have an excuse to attend a game: If you buy a ticket to one of three upcoming games, and use the promo code BBO, five dollars of your ticket purchase will go directly to supporting the Beaverhill Bird Observatory.

A special group rate offer is available for three games this season as the Oilers take on Los Angeles Kings on November 16, Washington Capitals on December 5, and Vancouver Canucks on December 23.

Purchase your tickets HERE.

Tru Earth Environmentally Friendly Products

In our effort to lessen the impacts on the environment we have teamed up with Tru Earth. Now, you can order their environmentally friendly products, and have 20% of all proceeds go towards the BBO. Their products make great Christmas Gifts.

CLICK HERE for more details.