Bitterroot AUDUBON

APRIL 2022 NEWSLETTER VOLUME 36, NO. 8

Hummingbirds in the Bitterroot Valley

By Eric Rasmussen

Eric Rasmussen grew a love for birds at an early age. He learned how to quietly observe his surroundings from his grandfather, in the hardwood forests of Minnesota. He recorded his first field observation— a blue jay on a stick nest— in a bird journal at the age of nine. It included the time, date, and weather.

Eric continues recording field observations as part of the Avian Science Team at the MPG Ranch, in Florence, MT. Hired in 2010, he now conducts breeding bird surveys, migration surveys of passerines and raptors, maps wintering raptors, and bands hummingbirds.

He is excited to share some findings from his five years of hummingbird banding at MPG, working in partnership with the Hummingbird Monitoring Network. He will cover phenology, seasonal abundance, and physical traits of the three common species that regularly occur in Western Montana, plus some random tidbits and fun facts. He will also touch on additional species to watch for, tips and ideas for attracting hummingbirds, and is happy to answer questions.

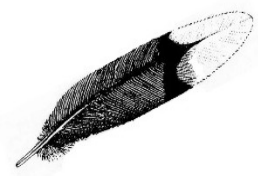
You are invited to a Zoom meeting.

When: Apr 18, 2022 07:00 PM Mountain Time (US and Canada)
Register in advance for this meeting:
https://us02web.zoom.us/meeting/register/tZMkc-6qqjgpGd3jlQ3fFPD_VtC2d_uGiwJu
After registering, you will receive a confirmation email containing information about joining the meeting.

Important: Please register before 5 p.m. on the day of the program, and join the meeting before 7:15, as no one will be allowed in after that time.

Letter from the President

By Micki Long, BAS President



Instead of making resolutions at the beginning of a new year, I have started making resolutions at the beginning of spring. After all, spring is a time of renewal, the awakening of dormant shrubs and trees and the emergence of new growth from seeds we planted in the fall. It is also time for courtship and breeding in animals. Some birds, like Great Horned Owls, are already on the nest, and others are pairing up and searching for suitable nest sites. The avian world is preparing to welcome a new generation.

My spring resolution is to learn more about trees; my love for and interest in trees grew alongside my love of birds. I am especially fascinated by the underground network that connects trees, even those of different species. I first heard the term "mycorrhizal fungi" over a decade ago, in a talk whose science was a bit beyond me. But I loved the idea of trees communicating and even helping one another. A few years later, on a long drive, I listened to the audio book *The Hidden Life of Trees* by Peter Wohlleben and promptly purchased the hardback version when I returned home. I'm currently reading Suzanne Simard's *Finding the Mother Tree.* Simard explains, in terms I can understand, that trees are "in a web of interdependence, linked by a system of underground channels…The evidence was at first highly controversial, but the science is now known to be rigorous, peer-reviewed, and widely published." I am also reading the memoir *To Speak for the Trees: My Life's Journey from Ancient Celtic Wisdom to a Healing Vision of the Forest* by Diana Beresford-Kroger. I highly recommend these books! And if you missed the excellent Zoom presentation on mycorrhizal fungi networks offered by the Valley of Flowers chapter of the Montana Native

Plant Society last month, you can find it here: https://www.youtube.com/watch?v=y4aWveo0CoE. I also recommend some firsthand communing with trees, on a hike by yourself or with friends--or on a Forest Therapy walk by Deb Goslin (https://naturespeake.com). I attended one not too long ago and spent time observing, touching, listening, and taking in the scent of cottonwoods. We finished with some delicious tea made from Douglas fir needles. I plan to keep my spring resolution throughout the year, deepening my knowledge about and appreciation of the life-sustaining trees that surround us.

I hope to see you at Welcome Back Waterfowl Day, April 23, from 10-1:30 at the Lee Metcalf National Wildlife Refuge, near the Visitor's Center. Bring your scopes and binoculars—and buy a Bitterroot Audubon T-shirt!

Courtesy Micki Long
Great Horned Owl sheltering in a huge Ponderosa Pine.

The Recovering America's Wildlife Act
By Larry Berrin, Executive Director of Montana Audubon

Wildlife conservation efforts are at a critical point, with more than one-third of American species at risk and in need of proactive recovery. State Wildlife Action Plans, developed with the best available science in collaboration with federal, local, and tribal agencies, collectively identify more than 12,000 "Species of Greatest Conservation Need." The Recovering America's Wildlife Act (RAWA) would provide necessary funding to implement these plans, as well as critical Tribal and Territorial wildlife conservation programs, conserving wildlife populations before they become threatened or endangered, while helping to recover those that already are.

The collaborative, non-regulatory approach of this bill will empower conservation for the full diversity of America's wildlife as well as critical natural resources. Failure to fund these conservation efforts will not only endanger many more at-risk species but threaten the local, state, and federal economies bolstered by the $788 billion outdoor industry, which employs 5.2 million Americans.

For over 80 years, state, territorial, and tribal conservation efforts have proven to be incredibly effective at restoring species, some of which were once on the brink of extinction. Today, we face a new wildlife crisis, one in which the magnitude of the solution must match the magnitude of the challenge. By prioritizing passage of the Recovering America's Wildlife Act, we will ensure that our fish, wildlife, and outdoor recreation traditions and their associated national economic benefits will endure for the benefit of future generations. The Recovering America's Wildlife Act represents a historic opportunity to simultaneously benefit wildlife, conservation, and the economy. For more information or to join the Montana RAWA Coalition, contact Montana Audubon (406) 443-3949.

Lead Research Hits the Big Time
By Kate Stone

Members of Bitterroot Audubon have long followed the information regarding lead poisoning in eagle populations, thanks to the research by local organizations Raptor View Research Institute and MPG Ranch. Their 2021 paper in the *Journal of Wildlife Management* found that nearly all (94.5%) of 91 overwintering Golden Eagles captured in the Bitterroot Valley had elevated levels of lead in their blood (Domenech et al., 2021). They are currently working on a manuscript on Bald Eagles with similar findings. The source of lead: fragments left in the field after hunting. Lead ammunition can fragment more than 20% of its mass upon hitting an animal, and many of these fragments are too small to perceive. In response, many conservation groups

and hunters are working to encourage the use of non-lead ammunition for all types of hunting. This movement has a ton of momentum and support in Montana, thanks to groups like Bitterroot Audubon and hunting organizations ranging from Montana Wildlife Federation to Sporting Lead-Free.

Some organizations have dug in their heels and refused to engage on the lead issue, hiding behind the excuse that research has not demonstrated that lead is having population-level effects on scavenging species like eagles. Two recent papers have shattered this excuse, and some of the data comes from Montana eagles. A study led by a team of USGS researchers published in *Science* used organ, feather, bone, and blood samples from over 1,000 live and dead Bald and Golden Eagles from 38 states, including samples collected by Raptor View Research Institute in Montana. Almost 50% of the birds examined showed evidence of repeated, chronic lead exposure. Short-term exposure was more frequent in winter months, when eagles scavenge on animal carcasses and gut piles left by hunters in the field. Modeled demographic growth rates showed lead poisoning slowed population growth rates for both species (Slabe et al., 2022). These findings reinforce what another 2022 *Journal of Wildlife Management* paper found: Bald Eagle populations across seven northeastern states had significantly decreased growth rates and a reduced resilience of hatchlings and breeding female eagles due to lead exposure (Hanley et al., 2022).

While it seems strange to celebrate two studies that show such widespread and devastating results, some within the conservation community are doing just that. Though these patterns have long been assumed and supported with local and observational data, having population-level studies appearing in peer-reviewed journals helps bolster the conversation about making the switch to non-lead ammunition. Thanks to the many hunters who have already made the switch, and to the organizations that have been on board for several years. And kudos to the thousands of hours put in by researchers like Raptor View Research Institute to gather and then share their information. We can also celebrate the fact that photos taken by Estelle Shuttleworth as part of the Bitterroot Valley Winter Eagle Project were used in the USGS press releases for their 2022 *Science* study and have since appeared in *Associated Press* pieces distributed all over the world.

Courtesy Bitterroot Valley Winter Eagle Project
These two Bald Eagles overwintering in the Bitterroot Valley likely have elevated levels of blood in their systems.

The Dangers of Hypothermia in Hummingbirds
By Bob and Judy Hoy

Hummingbirds split from swifts and treeswifts around 42 million years ago, most likely in Eurasia, and made it to South America about 22 million years ago, eventually coming to North America. In all that time, hummingbirds have been co-evolving with native flowering plants, and had to fly from flower to flower and hover while feeding. Flying warms both the hummingbirds, and the small amount of nectar they drink from flowers while hovering.

Feeders were first made in the 1950s, and those feeders did not have perches, so the birds had to hover while feeding. To some, providing a perch seemed like a kindness to the birds and because of consumer demand, feeder manufacturers added perches to most of their feeders beginning in the 1970s.

In 1983, Bob Hoy, a biologist, discovered what we called "perch hypothermia" after he observed the hummingbirds being unable to fly normally. They fluttered down to lie on the ground unresponsive and hypothermic after drinking cold sugar water from the feeder while remaining motionless on the perches. Hoy removed the perches and we never again found a hypothermic hummingbird. We attempted to bring this serious condition to everyone’s attention, but many claimed there was not enough evidence to prove the birds were being harmed, so nothing official was done.

All hummingbird researchers we contacted recently, including Dr. Sara Hiebert, Professor Emerita of Mathematics and Natural Science, Swarthmore College, Swarthmore, PA, Dr. Brett Tobalske, UM, Professor, Director of the Field Research Station, UM, Missoula MT., and Dr. Jack Kirkley, Prof. Biology, Western Montana College, Dillon, MT say that what National Audubon Society calls cold-stun on their website https://www.audubon.org/news/hummingbird-feeding-faqs is definitely hypothermia. Both the web site and the researchers say this condition is extremely dangerous to the affected hummingbird.

Research has shown that torpor, hypothermia and sleeping are three completely different conditions. While well hidden, hummingbirds will deliberately go into torpor at night and bring themselves out of torpor in the morning, taking about 20 minutes both times. Researchers found that hypothermic, unresponsive birds are close to death and can only recover if warmed. When hypothermic hummingbirds flutter or fall to the ground like the hummingbirds Bob Hoy observed, the birds are highly susceptible to being killed by predators, injured or dying. A female hummingbird incapacitated by hypothermia can't return to her nest to save her eggs or hatchlings from being killed by cold and/or starvation. This results in the loss of the entire family and is likely contributing to declines in hummingbird species.

Additionally, it has been shown in studies that hummingbirds exposed to pesticides experience changes in their metabolism, causing their energy levels to decline. A 2020 study by Simon G. English, "An integrative analysis of the effects of neonicotinoid pesticides on North American hummingbirds" showed that exposure to imidacloprid, the most used neonicotinoid in the U.S., "-- could bear important energetic consequences" to hummingbirds. Obviously, birds caused to have disruption to their metabolism by imidacloprid exposure would be especially susceptible to becoming hypothermic. Imidacloprid exposure has also been shown to kill pollinators, especially bees, large mammals, and seed eating birds.

Attracting hummingbirds by supplemental feeding can provide many hours of enjoyable hummingbird watching, and can be beneficial to the hummingbirds, if the welfare of the birds is always the primary consideration. Erring on the side of caution to prevent harm to hummingbirds is easy. Please use only perchless feeders in areas where the temperatures go below 55 degrees.

Calendar of Events

Apr 17:	Beginner Bird Walk at Lee Metcalf NWR, Stevensville, MT 10AM-12PM.
Apr 18:	**ZOOM** Audubon Meeting/Program: *Hummingbirds in the Bitterroot Valley*, 7PM; Zoom Board Mtg. 5PM.
Apr 23:	Welcome Back Waterfowl Day, Lee Metcalf NWR, Stevensville, MT, 10AM-1:30PM
May 16:	**ZOOM** Audubon Meeting/Program: details to be announced, 7PM; Zoom Board Mtg. 5PM.
June 3-5:	**Save the Date** for the Wings Under the Big Sky Festival, Lewistown, MT.

Welcome Back Waterfowl!!

By Judy Hoy and Kate Stone

Mark your calendars: Bitterroot Audubon will be welcoming back waterfowl and wonderful birders on Saturday, April 23rd. We'll meet on the dike west of the Visitor's Center from 10 am to 1:30 pm. We'll help the public with bird identification and observing the waterfowl, other birds, and mammals that use the refuge wetlands. This special event is for everyone. For more information or questions, check the Bitterroot Audubon Website: www.bitterrootaudubon.org.

Byron Weber Scholarship Winner Larissa Saarel

Skip Horner- Scholarship Committee Chairman

Bitterroot Audubon is proud to announce our winner of this semester's Byron Weber Memorial Scholarship. We had five strong applicants from several Montana colleges, so it was not an easy choice, but in the end, our vote was unanimous.

Larissa Saarel is a senior majoring in Environmental Science at Rocky Mountain College in Billings. She brings a wide range of qualifications with her, but her most impressive project is her work along the Bighorn and Yellowstone River corridors, where she formulated the project, conducted all the field research, and collected the data first-hand and remotely seeking clues on heavy metal contamination and on the reduced reproduction and limited juvenile recruitment of spiny soft-shelled turtles in dammed and un-dammed rivers. Larissa gave a thoughtful and articulate presentation of her

project and her other goals at our recent March meeting.

The Byron Weber Memorial Scholarship is a $1000 award we give every semester to a student at a Montana college pursuing a major in a Natural Resource field. Over the ten+ years we've given this scholarship, we have helped sponsor a wide array of talented students pursuing a stunning diversity of majors. The application is available on our website. Students from the Bitterroot are given preference, so please spread the word.

Kids' Corner: Birdhouse Project at the Daly Mansion

By Ada Bernauer (age 10) and Annie Bernauer

On the afternoon of Wednesday March 23rd, a group of Bitterroot Audubon Society volunteers, Daly Mansion volunteers, and Girl Scout Troup #3647 met at the Daly Mansion in Hamilton for a community birdhouse project.

We split into groups with ladders and tools to look for old broken bird houses that needed to be removed. We had several new birdhouses built by volunteers and our Girl Scout Troop. When we took down the old ones, we decided if they were in good places for the species of birds the houses were made for. If they were, we hung new ones in their place and made sure we hung them according to the Nest Watch website guidelines.

The birdhouses are being monitored by Bitterroot Audubon volunteers and can be watched by visitors to the Daly Mansion. I can't wait to go there in a few weeks and see the birds that are living in the birdhouses we built!

Courtesy Betsy Ballard

A volunteer helping to install a new birdhouse at the Daly Mansion.

Walking at Skalkaho Bend Park

By Becky Peters

I've been meeting with neighbors of Skalkaho Bend Park and Amy Fox, Hamilton Parks and Urban Forestry Director to talk about the problem of how dog owners let them off leash at the Park. I, of course, am worried about the new plantings and wildflowers we've done for the birds and pollinators! (Plus, those of us watering and weeding the area don't like being among the dog poop that isn't picked up!) While we were there we met a couple that reaffirmed that this Park should be an excellent and safe place to walk, not only for the very young and very old, but for those recovering from recent surgery. They really appreciated our big

boy Findley being under control and on leash. Everyone has the right to feel safe at our parks; our pollinators, our birds, ourselves, and our pets.

Courtesy Becky Peters

Jean Isreal, Kathy Wehrly, and Amy Fox at Skalkaho Bend Park.

Courtesy Becky Peters

Bitterroot Audubon Fundraiser

By Kate Stone

After a decades'-long respite, Bitterroot Audubon has our next generation of t-shirts available for purchase! These shirts feature a triptych of artwork by local artist and conservation celebrant Karen Savory. Enjoy a Common Raven, Great Horned Owl, and Black-capped Chickadee nestled on a Midnight Navy-heather background. If you enjoyed the shirts from the Bitterroot Valley Winter Eagle Project, these new shirts are the same style and sizing, printed for us by Garage Tees in Missoula.

We hope to have these shirts available for in-person purchase at programs and the Farmer's Marker later in 2022. In the meantime, you can order one from our website for $20 and we will mail it to you.

Please thank Karen for donating her art to this cause and support her by visiting her website: www.simplysavoryart.com

What is the Difference Between Native, Non-native, and Invasive Plants?

National Audubon Article, February 2022

We break it down for you and provide some alternatives to plants you might have in your backyard or local box store. By now you've probably heard some—or a lot—about the importance of swapping out invasive or non-native plants in your yard for native species.

Research shows that native plants can help create a healthier environment, a healthier ecosystem, and support a higher diversity of animals. Native plants can host many more types of insects than non-natives. Take a native oak tree, for example. Researchers have found that native oaks can host over 550 different species of moths or butterflies—especially their larvae. Those caterpillars are vital food sources for birds, especially warblers and other songbirds. In contrast, the non-native gingko tree can only host 5 different species.

So far, so good. But what about so-called "invasive" plants?

"I remember seeing some agency say 'invasive means non-native' and that's not right," says Senior Director of Bird Friendly Communities, John Rowden. As it turns out, differentiating between native plants, non-native plants, and invasive plants can be both simple and nuanced. We are here to help you figure out that difference!

Native: Native plant species are species that have existed historically in that area. The Plants for Birds program deliberately say these are plants that have existed in a location prior to European colonization in North America.

"For the Plants for Birds program, we say it is any plant that was here before European colonization," says Partnerships Manager for Plants For Birds, Marlene Pantin. "And then of course native plants are those that are adaptable to the climate, and the soil conditions in that area."

Non-native: Non-native plants are species that have not existed historically in one area but have been introduced due to human activities. Non-native plants don't necessarily pose a threat to native plants, but as mentioned before, non-native plants may not support ecosystem health as well as native plants do.

"Even within North America a plant can be native in portions of it and non-native elsewhere, says Rowden. "When talking non-native plants, for example here in California, it's not only plants that we brought in from Asia or Europe or wherever—it's also the plants that were brought here from the East Coast, or even just east of the Rockies. Historically, the Rockies were the boundary that plants couldn't cross but then humans brought them."

OK, so what about "invasive" plants? According to Rowden and Pantin, invasive plants are those that were either intentionally or accidentally translocated to an area where they did not exist naturally, and where they cause harm to native plants and the local ecosystem.

Invasive: Invasive plant species are non-native to particular ecosystems and the introduction of them is likely to cause "economic or environmental harm or harm to human health," according to the National Invasive Species Information Center.

For Pantin, invasive species are species that disrupt the growth of native plants, and root and spread quickly. Rowden agrees with Pantin and goes further to say that these species usually do not have any ecological checks on it, which means no predators, pathogens, or any of those sorts of things that can ecologically speaking, keep a species from spreading.

Examples of invasive species in your yards to replace.

Let's get it right out there off the bat: the struggle to plant only native plants is real. "People go to the big box stores, and they buy plants that look really pretty, and they may be wonderful plants, but they aren't native to that particular area," says Pantin. Box stores have very little incentive to carry native plants, and especially to be mindful of what plants might be native to where that particular store might be.

Tatarian Honeysuckle: Invasive honeysuckles are often larger than their native counterpart. These honeysuckles produce a large amount of seed and fruit that can be easily disseminated by birds. This plant can shade out many native plants and compete for pollinators, which can reduce the formation of fruits and seed from other native plants.

Greater Periwinkle: Common around the United States, the greater periwinkle outcompetes other plant species and prevents the establishment of native species, the plant is difficult to control because of how aggressive it spreads.

Norway Maple: The Norway Maple is a popular tree to plant along streets and in lawns and is a shade tree. However, being a shade tree, it makes it difficult for any native plants to grow in the understory below.

Want to know more, and find plants that are native to your area? Check out Audubon's **Plants For Birds database**. Not only will the database tell you what plants to buy and which birds those plants will support, it will also show you where you can buy them.

What's the story, Story?
By Jim Story

Question: What determines the shape of a bird egg?

Answer: The short answer is: We don't know what determines the shape of a bird egg. Past theory proposed that the shape of bird eggs was related to things like clutch size, nest location, nest size, etc. But a recent study offered new information.

Using a computer program, an evolutionary biologist, Mary Stoddard and her team assessed the eggs of 1,400 bird species (stored in a museum) for two characteristics: asymmetry (how pointy the eggs are) and ellipticity (how much the eggs differ

from a sphere). They compared these egg shape features against many variables, including the birds' body mass, clutch size, nest location, environment, and the HWI index. The HWI index is an estimate of wingtip pointedness, and is widely accepted as a proxy for flight efficiency and dispersal in birds.

To the team's amazement only one variable, flight efficiency, correlated well with egg shape. A possible explanation is that highly efficient fliers have very streamlined bodies, so their organs are tightly compressed, increasing the likelihood of producing eggs that are elliptical or asymmetric. But correlation is not necessarily causation. While Stoddard's excellent study strongly suggests that flight efficiency is probably an important contributor to egg shape, biological systems are complex and seldom governed by only one factor. For example, it is unlikely that the Common Murre which lays pointy eggs on narrow cliff ledges has persisted merely because it is a strong flier. In short, there are likely many factors affecting egg shape, and much more research is needed before the process is fully understood. (source: Stoddard et al. 2017. Avian egg shape: Form, function, and evolution. Science 356: 1249–1254.).

Local birding expert Jim Story answers your questions about birds and their habits. Jim welcomes your questions at jstory4689@gmail.com.

News and Notes

2022 Long-Billed Curlew Citizen Science Surveys (April 8-May 7; May 8-May 31): Are you ready to hear the 'currlleeee' of the Long-billed Curlew? Well, grab your binoculars and get ready, because curlew season is just around the corner! These charismatic shorebirds will be trickling back into the state in less than two months and we need your help finding as many as possible in and around the Mission, Blackfoot, and Helena Valleys!

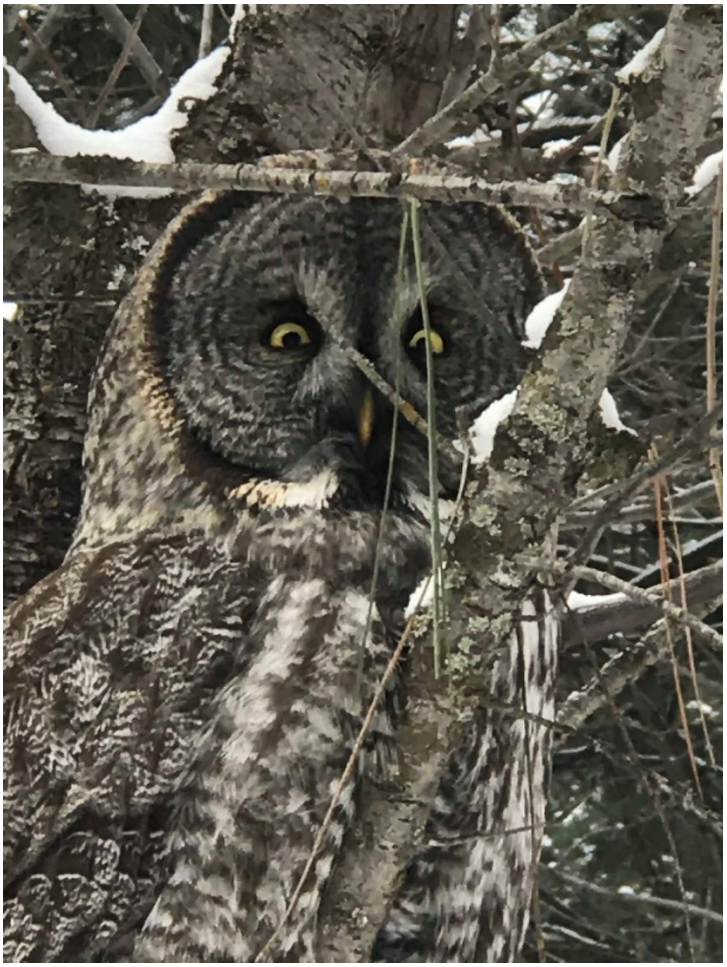
Since 2013, volunteers have recorded curlew sightings in these three Montana valleys and this data helps inform statewide habitat models as well as highlight important tracts of intact grassland that are in need of conservation. We are hoping to revamp our efforts on this project, so please share this opportunity with anyone you think will be interested! As a species specific survey, this is a great time for aspiring citizen scientists and veteran birders alike to contribute to the conservation of a treasured Montana bird species.

Please email Peter Dudley at peter@mtaudubon.org for more information and to sign up!

Call for Photos: Bitterroot Audubon is seeking images of birds for a feature in our newsletter: *Bird Shots.* If you have taken a great photo and would like to submit it for consideration, please email the jpeg image, with a brief description, to BASeditors@gmail.com.

Bitterroot Audubon is on Facebook and Instagram: If you use Facebook or Instagram, please look for Bitterroot Audubon and "Like" us.

Bird Shots



Courtesy Skip Horner

Great Gray Owl

Bird Shots

Courtesy Carol Babel

Snow Geese and Swans at Freezeout Lake.

BITTERROOT AUDUBON
PO BOX 326
HAMILTON MT 59840-0326

Officers

President	Micki Long*	440-221-5256
Vice-Pres.	Mike Daniels*	
Secretary	John Ormiston*	360-9530
Treasurer	Jim Story*	493-9813

Directors & Committee Chairs

IBA Program & Conservation	Micki Long*	
Programs	Micki Long*	
Website	Kate Stone*	
Instagram	Philip Williams	
Education	Betsy Ballard*	
Nwsltr. Ed. & Distribution	Sara Ashline baseditors@gmail.com	
Hospitality	Rosan Stover	
Membership	Becky Miller*	
Publicity	Dave Lockman	777-2929
Rep. to MT Audubon	Micki Long* Mike Daniels	
Scholarship	Skip Horner*	642-6840
Aud. Adv.	Betsy Ballard*	
Field Trips	Susan Nelson*	
At large	Judy Hoy*	777-2487
At large	Michele Falivene (Mimi)*	
At large	Becky Peters*	
At large	Annie Bernauer*	

* Board Member

EMAIL: contactus@bitterrootaudubon.org
WEBSITE: www.BitterrootAudubon.org

Chapter Only Membership

The Bitterroot Audubon Chapter Only Membership is $15/year. These members will be supporting local chapter activities, receive the full color e-newsletter, and enjoy Chapter benefits. To join as a Chapter Only Member, complete this form.

Name:_____
Address: _____
City:_____
State: _____Zip:_____
Email: _____

Send this application with $15 to:

Bitterroot AUDUBON

Bitterroot Audubon Society
PO Box 326
Hamilton, MT 59840-0326

NATIONAL AUDUBON SOCIETY MEMBERSHIP APPLICATION

Audubon

Renew or Sign up
for your
National Audubon Membership at
Audubon.org