

Nocturnal Peeps: What Nights Sounds Can Tell Us About Shorebird Migration in Montana

By Kate Stone

Shorebirds cover huge distances during spring and fall migration, passing over entire states without touching land. Where they settle, wetlands provide critical resources for refueling. With widespread population declines, understanding all aspects of their life histories is important to conserving populations. Because most shorebirds migrate at night and daytime shorebird identification challenges many birders, we understand very little about their migration through Montana and the Intermountain West. However, shorebirds make unique flight calls while migrating, and we can often identify them to the species level based on these calls.



Photo by Kate Stone

Would you believe we have good numbers of Wilson's Snipe migrating over the Bitterroot? In 2017 peak numbers occurred in late September and early October.

Some of you may recall the “Bitterroot Array”—an installation of up to 50 recording units deployed annually from 2013 to 2019 at sites in Montana to study nocturnal bird migration. Though we set most units in the Bitterroot Valley, we had a handful of sites east of the Continental Divide. We focused most effort on fall migration but also had some units recording in the spring. Several Bitterroot Bird Alliance members hosted recording units at their property, as did schools like Florence and Darby High Schools. We also had units at familiar locations in the high country—sites like St Mary's Peak and Sula Peak.



This effort resulted in over 20 terabytes of acoustic data. Because of the massive amount of data and the difficulty in identifying some western bird species by flight calls, we decided to tackle shorebird calls during the year 2017 for an initial analysis. In this presentation, we'll walk you through how our Bitterroot data helped train the machine-learning model “Nighthawk” (think “Merlin” for nocturnal flight calls) and how scientists everywhere can use this application to better understand bird migration happening at night. But more importantly, we'll share some of our results about the shorebirds migrating over our valley—species you might never see or even expect. We'll also compare the findings from our recordings to the on-the-ground surveys several BBA members performed at Lee Metcalf NWR the past two years as part of the Intermountain West Shorebird Survey.

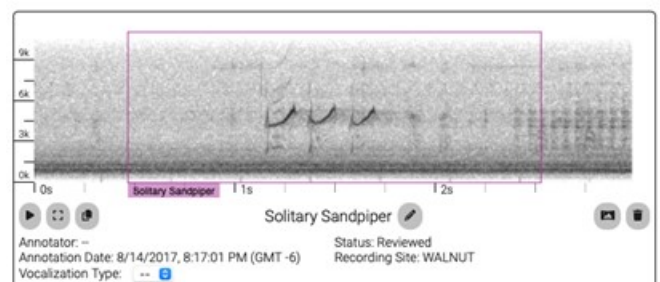


Photo by Kate Stone

Solitary Sandpipers only breed at one site in Montana, but we detected over 700 flying over the Bitterroot Valley during the fall of 2017. This spectrogram shows a Solitary Sandpiper detected east of Stevensville in mid-August.

Kate Stone is a long-time board member of Bitterroot Bird Alliance and an ecologist at the MPG Ranch. Like many people, she struggles with visual shorebird identification in the field because she encounters relatively few of them. But as an “ear birder” at heart, she loves the use of acoustic tools to study bird populations. This research has helped her learn to identify many more shorebirds by their flight calls.



Photo by Kate Stone

BBA members Pam Murphy, Micki Long, and Kate Stone smile to hide the fact that they saw very few shorebirds at Lee Metcalf NWR as part of the Intermountain West Shorebird Surveys.

Please join BBA for a glimpse into the scientific process of innovation and discovery during our virtual program via Zoom on January 20, 2025 at 7PM. You will need to register in advance for this meeting:

<https://us02web.zoom.us/meeting/register/BOsWvJQTTlOzuJX7sDot5g>

After registering, you will receive a confirmation email containing information about joining the meeting.

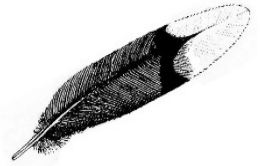


Photo by Kate Stone
A directional microphone hides inside this bucket on Sula Peak.

Letter from the President

By Micki Long, BAS President

Happy New Year, fellow birders! I hope you all had a great holiday season. Mine was quiet but very nice. One of the highlights was the Christmas Bird Count.



I always love the Stevensville Christmas Bird Count. For years I've counted birds not far from home with Elena Ulev (owner of Blue Heron Nature Tours, a sponsor of Poets in the 'Root); this year we were joined by Bitterroot Bird Alliance Board member Pam Murphy. We had a great time, although unlike the last two years, we did not see a Ferruginous Hawk. But we saw seventeen Red-tailed Hawks, in many different color morphs. The American (formerly: Northern) Goshawk who scans my yard and feeders from cottonwoods high over the creek didn't show up until yesterday. So we didn't get to include him or her—maybe next year!

That juvenile American Goshawk was here for nearly two hours yesterday. What a beautiful bird! I was particularly happy that the under-tail coverts, with their little heart-shaped markings, were clearly visible (see photo). I think I'll draw or paint those feathers in my nature journal! While the markings are clear in my Sibley's field guide, they are not noted or pointed out in the drawing, and I just had never noticed. I'm grateful to more expert birders on the Montana Birding page on Facebook for pointing out those markings. The under-tail coverts of the Cooper's Hawk do not have these markings, so if the bird's size is hard to determine, the under-tail coverts are one way to distinguish between the two hawks--if they are juveniles. There is no mistaking an adult Goshawk for an adult Cooper's! I've had an adult here three times last winter and once so far this winter. Fingers crossed for more visits.

On Saturday, February 8th, from 1-3 pm, we'll have another *Poets in the 'Root* event. We'll be back at Teller Wildlife Refuge this time. Use this link to learn more, sign up to read, give a nature interpretation, or attend as an audience member: <https://www.tellerwildlife.org/events/2024/2/24/poets-in-the-root-c9blz> As the Teller page says, you can email me with questions (mickilong@gmail.com). This is the fourth *Poet's* event—if you haven't been to one yet, please join us. These events are so much fun; I always enjoy the poems and learn from the

nature interpretations. And the icing on the cake? This time, Chapter One Bookstore in Hamilton is joining us as a sponsor. They are generously providing coupons for 20% off a book of poetry, for participants and attendees. Thank you, Chapter One!

I hope to see you at our Zoom program on January 20th. Board member Kate Stone will present on shorebird surveys, and Kate always gives us great presentations. See elsewhere in this newsletter for a link to register.



Photo by Micki Long

Juvenile American Goshawk with under-tail coverts circled.

Calendar of Events

- Monthly:** Beginner Bird Walk at Lee Metcalf NWR, 3rd Saturday of each month, Stevensville, MT 10AM-12PM.
- Jan 20:** BBA Meeting/Program; *Nocturnal Peeps: What Nights Sounds Can Tell Us About Shorebird Migration in Montana*, By Kate Stone. 7PM via Zoom.
- Feb 8:** *Poets in the 'Root*, The Barn at Teller, 1180 Chaffin Lane, Corvallis, MT at 1-3PM, See flyer in newsletter for details.
- Feb 17:** BBA Meeting/Program; details TBA, 7PM.
- Mar 17:** BBA Meeting/Program; details TBA, 7PM.
- May30-Jun1:** Save the Date: *Wings Across the Big Sky* Festival; Missoula, MT. Further details TBA.



Save the date for the 2025 Wings Across the Big Sky Birding Festival

Though next summer seems far away, we're already hard at work planning the next Wings Across the Big Sky Birding Festival!

The festival will be held in Missoula, May 30 – June 1 2025. Montana Audubon is partnering with local chapter Five Valleys Audubon Society to host the festival, which will feature local field trips, a riveting keynote speaker, and engaging presentations. We're excited to share more details as soon as they're finalized!

More information coming soon, and keep an eye out for registration brochures in March 2025.

Please pay your \$15 membership renewal for 2025. Renew online through the website: www.bitterrootaudubon.org/membership and click on the "Join Now" button to pay with credit card. You can also renew through mail by sending your name, address, email, and check (made out to the Bitterroot Bird Alliance) to:
Bitterroot Bird Alliance Supporting Member
P.O. Box 326
Hamilton, MT 59840

BITTERROOT BIRD ALLIANCE, TELLER WILDLIFE REFUGE, CHAPTER ONE BOOK STORE,
BLUE HERON NATURE TOURS & MONTANA NATURAL HISTORY CENTER PRESENT

POETS IN THE 'ROOT

FEBRUARY 8, 1:00-3:00PM

FREE AND OPEN TO THE PUBLIC
THE BARN AT TELLER | 1180 CHAFFIN LANE, CORVALLIS
**coffee, tea, wine, and snacks will be provided*

Nature in nearly all manifestations has inspired poets since there were poets! And at least since the Roman poet Horace wrote *Ars Poetica* or the *Art of Poetry* in 19BC, literature, including poetry, sought to both instruct and delight.

Poets in the 'Root combines these two aims in an uncommon but simple way. One person reads a poem or part of a poem that uses an element of nature to convey its message. Then, the same or another person gives an explanation (5 minutes max) of some aspect of that nature element. The explanation focuses on nature interpretation, not literary interpretation. Listeners get a bit of poetry and a bit of natural history.

Participants and attendees receive 20% off one poetry book from Chapter One Book Store

*Anyone can volunteer to read poetry and/or offer the nature interpretation.
This is a fun way for Master Naturalists to earn credit towards their certification.*

*Scan the QR code below to register or visit www.tellerwildlife.org.
Questions? Email mickilong@gmail.com*



BITTERROOT BIRD ALLIANCE
PO BOX 326
HAMILTON MT 59840-0326

Officers

President Micki Long* mickilong@gmail.com
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Nwsltr. Ed. & Distribution Sara Ashline baseditors@gmail.com
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* Board Member

EMAIL: contactus@bitterrootaudubon.org

WEBSITE: www.BitterrootAudubon.org

FACEBOOK: [Bitterroot Bird Alliance](https://www.facebook.com/BitterrootBirdAlliance)

Chapter Only Membership

The Bitterroot Bird Alliance 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 Bird Alliance
PO Box 326
Hamilton, MT 59840-0326



NATIONAL AUDUBON SOCIETY MEMBERSHIP APPLICATION



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