FEBRUARY 2022

# Sacajawea Audubon News

*Sacajawea Audubon Society builds on an interest in birds to promote the conservation of our natural environment through enjoyment, education, and action.*

## *Monday, February 14th, 2022 Monthly Program:*

## "Smart Cameras and Tracking Devices for Wildlife Research"

### *with Doug Bonham*

*Doug's work bench with his ever-present Quality Control Supervisor, Joey the Black-headed Caique.*

*by Kyle Moon*

Doug will recap a brief history of tracking technologies for wildlife research going back to ground breaking work by Montana's own John and Frank Craighead. From there he will describe current wildlife tracking technologies including the ones he designed for species ranging from eagles and owls in Montana, to those used for marine mammals and even devices for tracking tree kangaroos in Papua New Guinea. He will describe some of the engineering challenges facing designers of devices that must withstand Antarctic temperatures, rainforest humidity, and every imaginable hazard: teeth, beaks, claws, rocks, water pressure—even white shark digestive systems. Doug's current research grants leave the invasive and attached devices behind in favor of non-invasive new smart cameras and LiDAR technologies.

Doug arrived at the University of Montana in 1975. He ran straight from the airport to Dr. P. L. Wright's office to ask where the local Audubon chapter meets. Dr. Wright said there wasn't one, so he started Five Valleys Audubon, which is still active today. After earning degrees in Wildlife Biology and Electronic Engineering, he alternated work as a biologist and as an engineer. His custom tracking devices have been used on dozens of critical wildlife species around the world. Doug recently left Microsoft's Surface Device Design Team to work on several research grants related to conservation technology for wildlife research. His current project has deployed custom smart camera devices in Texas, California, and Costa Rica for studying endangered reptiles, amphibians, and Scarlet Macaws. He is also developing smart cameras triggered by a newly commercialized LiDAR chip that can detect moving objects and small animals that are missed by typical PIR-triggered trail cameras. Although he has a lot of experience designing custom tracking collars, he is hoping to help push field research toward more non-invasive smart device technologies.

The February 14th in-person meeting will be held at Hope Lutheran Church, 2152 W. Graf (off of S. 19th). A social begins at 6:30 PM; the program begins at 7:00 PM. We are following Gallatin County Health Department COVID-19 Guidelines; **masks are required. Watch for an email in the event we have to cancel the in-person meeting.**

You can register for the virtual meeting at: https://attendee.gotowebinar.com/register/6150618988003299086. After registering, you will receive a confirmation email containing information about joining the webinar.

Please share our virtual program using the hashtags #sasbirds, #sacaaudubon, and #conservationtechnology.

SAS programs are free and open to the public, featuring a special guest speaker the 2nd Monday of each month, September through May. For more information, contact Kyle Moon at programs@sacajaweaaudubon.org.

# FEBRUARY 2022 SAS BOOK CLUB

The February book selection is ***Vesper Flights*** (2020) by Helen Macdonald. The Bozeman Public Library has generously purchased ten copies for use by SAS Book Club. Contact Elisabeth (elsswa@gmail.com) for your copy.

The *New York Times* describes Macdonald as an historian of science, a naturalist, poet, illustrator and one-time falcon breeder for the royal family of the United Arab Emirates. She is the author of the international best seller ***H is for Hawk*** (2014), which won the Samuel Johnson Prize for Nonfiction and the Costa Book of the Year.

***Vesper Flights*** is a collection of 41 dazzlingly written essays focusing on birdlife, wildlife, the natural environment, and the physical and cultural structures that separate us from deeply understanding natural beings and ourselves. Each essay is anchored with Macdonald's acute observations of nature and how modern society tests once-durable ecological patterns. We experience her first encounter with wild boars, newly reintroduced in the UK. We revisit the once-rich meadow of her youth in Surrey, now reimagined as a flat, featureless, lifeless playing field. We watch the spring migration from the upper deck of the Empire State Building at nighttime with the author, accompany her in a riverboat during the traditional "Swan Upping" on the Thames, and share in her reliving her first total eclipse as a child, experiencing her vast relief when the sun finally climbs out of an ominous hole. Each essay shows Macdonald's capacity for wonder, her candor when change needs to happen, and her abiding faith that progress on intractable problems is possible.

Join other members and host Bob Swinth for an online discussion on **February 16th** from **6:30–7:45 PM**. We welcome new participants at every meeting!

In order to join on your computer or tablet, go to https://global.gotomeeting.com/join/604063133 (if you're a first-timer, please sign in early in order to download the app). You can also call in at **+1 (872) 240- 3212**. Use Meeting ID number **604-063-133**.

We are seeking a leader for the April 20th meeting. The selection is ***The Bird Friendly City: Creating Safe Urban Habitats*** by Timothy Beatley. If you would like to volunteer to lead this discussion, please contact Elisabeth (elsswa@gmail.com) or Hilary (ralphhilary@gmail.com).

## SACAJAWEA AUDUBON SOCIETY OFFICERS AND COMMITTEE CHAIRS

### Officers

| | |
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| Treasurer | Mary Schlosser<br>treas@sacajaweaaudubon.org |
| Secretary | Emma Narotzky<br>sec@sacajaweaaudubon.org |

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| Kyle Moon | programs@sacajaweaaudubon.org |
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| Education Chair | Travis Kidd<br>education@sacajaweaaudubon.org |
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| Big Sky Watershed/<br>AmeriCorp Member | Oakley Strausser<br>oakleystrausser@sacajaweaaudubon.org |
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SACAJAWEA AUDUBON SOCIETY

# INDRELAND AUDUBON WETLAND PRESERVE UPDATE: FEB. 2022

## IAWP BUSY BEAVERS TO CELEBRATE WORLD WETLANDS DAY

Celebrated annually on February 2nd, **World Wetlands Day** aims to raise global awareness about the vital role that wetlands play for people and for the planet. This year marks the first time that World Wetlands Day will be observed as a **United Nations International Day**, following its adoption by the General Assembly on August 30th, 2021.

The theme for 2022 is **Wetlands Action for People and Nature**. It highlights the importance of actions that ensure that wetlands are conserved and sustainably used. It is also an appeal to invest financial, human, and political capital to save the world's wetlands from disappearing and to restore those wetlands we have degraded.

Visit Bozemanwetlands.org for more information about how you can celebrate World Wetlands Day.

*Inset: IAWP Busy Beavers volunteers Kelsi Tjernagel and Mariah Palmer. Below (l to r): Heather Priest (Gallatin Watershed Council) and IAWP Busy Beaver volunteers Colleen Moore and Frank Marchak measure water levels at the Indreland Audubon Wetland Preserve. Photos by Heather Priest.*

# 2021 CHRISTMAS BIRD COUNT

*by John Parker*

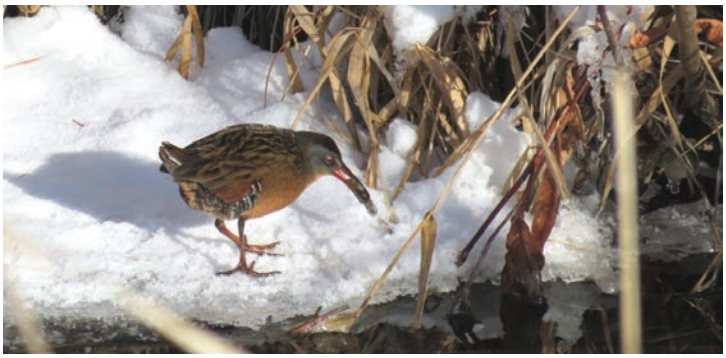
It was an interesting year for this area's **Christmas Bird Counts**. Once again, due to the continuing COVID-19 situation, there were still some limitations on post-count gatherings and sharing space while driving in the field. And, of course, winter weather in Montana is always a factor and can sometimes create havoc with outdoor activities.

The first count this winter was the **Ennis** count, which was preceded by a major overnight snow storm. Daylight brought clearing skies, and the most open water on Ennis Lake that any of the count participants had seen this late in the year. The open water on the lake was holding more waterfowl than ever, which contributed to new high counts for several species of ducks, two **Eared Grebes**, and incredibly over 5,000 **American Coots**. It was also a record high count for **Ring-billed Gulls**, and for the first time ever on the count a **Herring Gull** was seen patrolling the shoreline of Ennis Lake. New high counts were also recorded for **Pinyon Jays** and **Common Redpolls**.

*Gray-crowned Rosy-Finches photo by Terri Narotzky.*

The **Bozeman** count was conducted under near ideal winter conditions, with moderate temperatures and no wind. The 72 species seen was the third highest total for the count. Bozeman's count was also conducted before the real cold weather arrived; there was more open water than usual, resulting in more lingering waterfowl and high counts for five species of ducks including a **Blue-winged Teal**, which was a first for the count. Another bird new to the count was the young **Ferruginous Hawk** seen near Gallatin Gateway. The four **Canada Jays** counted near Limestone Creek beat the old high mark by one. Another high count was for **American Goldfinch**, breaking a 107-year-old record for the species (109 individuals over the old record of 100).

According to George Kelly, the compiler for the **Livingston** count, the "horrendous weather" (wind gusts up to 70 mph) definitely affected the count. Certain areas of the count circle were unreachable due to drifting snow. Even in the wind, the counters managed to find 65 species—a very respectable number for any year. **Cinnamon Teal**, **Lesser Scaup**, **Eared Grebe**, and **Hoary Redpoll**, all of which were south of town,



*Virginia Rail photo by Lou Ann Harris.*

were new additions to the count. Incidentally, on December 15th, Drew Thate saw two **Sandhill Cranes** flying near Pine Creek. This was just outside the Livingston circle and one day before count week started.

The **Yellowstone/Gardiner** count was held the same day as the Livingston count, but without the extreme wind. Thirty-seven species of birds were tallied for the day, including a high count for **American Wigeon**. Some of the unusual birds were **Mourning Dove**, **White-crowned Sparrow**, and **White-throated Sparrow**. While checking the thermal run-off channels in lower Mammoth, a **Virginia Rail** flushed, giving all the of the count team excellent views of the flying rail.

Blizzard conditions are not ideal for counting birds, so the **Three Forks** count was rescheduled to New Year's Eve. A total of 57 species were seen on count day with **Gray-crowned Rosy-Finches** and a single **Lincoln's Sparrow** being the most unusual birds for the count. New high counts were recorded for **Northern Flicker**, **House Finch**, and **American Goldfinch**. The 8,000+ **Horned Larks** and scores of **Lapland Longspurs** on Bench Road in the afternoon sunlight were a wonderful winter spectacle.

The post-Christmas blizzard didn't stop some hardy **West Yellowstone** counters. With only a handful of counters available and visibility at less than 100 meters at times, it was tough. The toughest birds out there were the plentiful **Common Ravens** and **Mountain Chickadees**.

The **Ruby Valley** count enjoyed terrific weather. Participants identified a record 67 species, and each section team added at least one unique bird to the total. New to the count this year were 48 **Gray-crowned Rosy-Finches**. A **Pacific Wren** was seen for the second time on this count. It's been a very good winter for **Common Redpolls** and **American Tree Sparrows**, with new record high counts for each species. Of the seven years this count has been run, **Ferruginous Hawks** have been seen four years. Tom Forwood, who started this count, thinks that perhaps this magnificent raptor should be the totem bird for the Ruby Valley count. Thank you, Tom, and good luck with your new position at Big Bend Ranch State Park in Texas.

# 2021 KESTREL NEST BOX PROJECT REPORT

*by Paulette Epple*

### Local Program Again Proves Successful

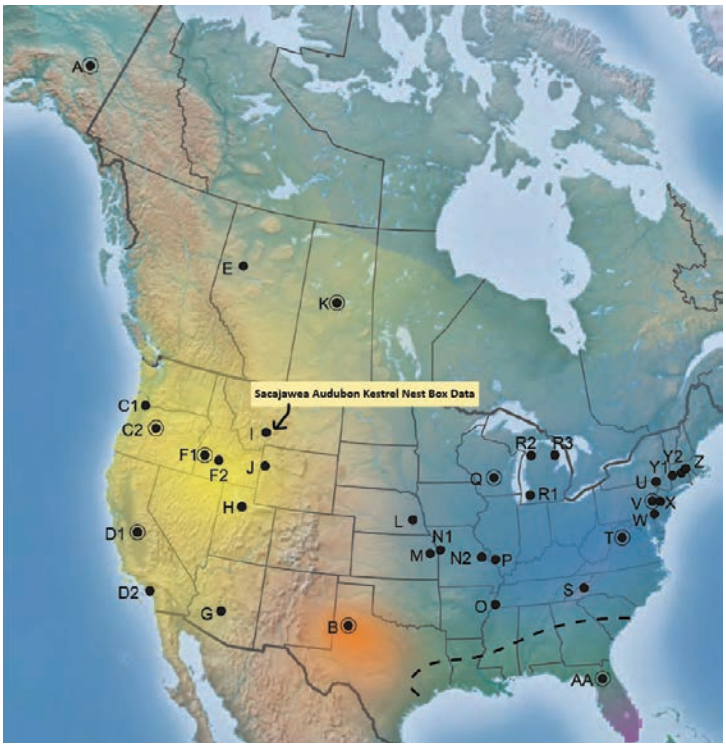
The 2021 kestrel nesting season drew to a close during the first week of August, when the last two late nests of young kestrels successfully fledged. The year's nesting season ended with better-than-expected numbers of birds fledged, considering we were plagued with presumed predation problems on some of our nests and some eggs proved to be infertile in other nests. We had 19 nest boxes occupied (a little above average) and every box had full clutches of four or five eggs laid, which is a very good sign for a season. Of those 19 boxes we successfully fledged 52 young nestlings, or an average of 2.7 birds per box. Unfortunately, five boxes failed completely—four from some form of predation and one due to infertile eggs. The predation problem is a relatively recent issue and we suspect bull snakes are the culprit in some cases. We are researching possible predator guards to prevent this.

### SAS Participates in National Research Programs

Sacajawea Audubon Society (SAS) submits our data each year to the American Kestrel Partnership (AKP) to further their work advancing kestrel conservation. One of the more interesting projects that we contributed to was a genetic study of American Kestrels. For three years SAS volunteers collected feathers from nestlings in Montana to contribute

*A 22-day-old male kestrel nestling is ready for banding. Photo by Sam Koenen.*

to the Full Cycle Phenology Project. This project brought together a diverse group of collaborators including Boise State University, the University of Colorado, the American Kestrel Partnership, and several other entities. The project generated a genoscape—a map of genetic variation—for the American Kestrel by sequencing the first American Kestrel genome. Findings were recently published in the journal *Ornithology*. Interestingly, researchers were able to identify five genetically distinct populations of American Kestrels in North America. These include a resident Florida population that correlates with the *Falco sparverius paulus* subspecies, and also four other populations: another resident population in Texas, as well as




*Revised figure from Ruegg and Brinkmeyer et al. (2021) showing five genetically distinct groups of American Kestrels: Alaska (light blue), Western (yellow), Eastern (dark blue), Texas (orange), and Florida (purple). Dots represent locations from which genetic samples were collected.*

eastern, western, and Alaska populations that use a mix of migratory strategies. Identifying distinct population units for conservation is an important first step in the management of declining populations. Note that in the map (above) "Dot I" represents our Sacajawea Audubon Society contributions of feather samples and data to the project.

Several other significant studies are currently being conducted. One ongoing study will determine if and how American Kestrels are changing their breeding strategies in response to climate change. Another study is looking at how kestrel breeding time relative to the start of the growing season affects kestrel productivity. Yet another ambitious study is trying to determine the effects of agricultural contaminants such as anticoagulant rodenticides, neonicotinoids, and organophosphate pesticides on kestrels that prey on mammals, insects, or songbirds that have been exposed to these compounds.

Understanding the decline of the American Kestrel is one of the more perplexing puzzles in conservation; the reasons for decline remain unclear. Community science observations, like those submitted by SAS through the AKP, are helping scientists answer broad-scale questions like these for the very first time. To learn more about the American Kestrel Partnership visit their website at www.peregrinefund.org.

# MEET OAKLEY STRAUSSER:
## SAS's New (and first) Big Sky Watershed Corps Member

*by Victoria Saab, SAS Board of Directors*

Big Sky Watershed Corps is an AmeriCorps program that assists Montana's watershed communities to make a measurable difference in local conservation efforts while strengthening the experience of young professionals.

Sacajawea Audubon Society (SAS) recently selected and is now hosting our first Montana Conservation Corps (MCC) member, Oakley Strausser, assigned as "Big Sky Watershed Corp Member." She will be working with SAS primarily on projects related to the Indreland Audubon Wetland Preserve (IAWP). SAS Board Members are very enthusiastic about working with Oakley, who I interviewed in January.

**Where did you grow up?** In Boulder, MT. I was always running around outdoors. As a kid I pretended to be crocodile hunter by the rivers, catching snakes and frogs. Early on I was interested in conservation of the natural world.

**What is your education?** Montana State University, B.S. Microbiology, 2018, before hopping off to Europe for hiking, cooking, and farming adventures.

**What was your work experience prior to this position?** I worked for Jefferson County, MT, spraying noxious weeds. I also worked on the wildland restoration crew for MCC.

**What attracted you to work for SAS?** The wetland projects related to the IAWP. I am passionate to learn about urban conservation, where there is opportunity to benefit wildlife, humans, and biologically rich protected areas in an urban setting. I want to find compatibility among all the interests. I am enthusiastic about this work because we can exemplify biodiversity, beauty, and education about conservation through wetlands. When I lived near Seattle, I became very interested in wetlands after observing the benefits of a recently restored wetland. The wetland had been converted to agriculture almost 100 years ago, then more recently restored to a functioning wetland where beavers, muskrats, and birds were thriving.

**What do you hope to accomplish in the next year?** I want to deepen my relationship with the community and the community's relationship with nature. I want to broaden my knowledge of wetland management and gain experience in community outreach to help the public understand the importance of the ground-breaking work at the IAWP. I also want to gain an understanding of how non-profits operate, particularly as I work with SAS and MCC.

**What is your favorite bird and why?** The Cedar Waxwing is my favorite bird. I've gained a great appreciation for this

species while watching them feed on mountain ash berries from my downtown Bozeman apartment.

**What do you hope to be doing in five years?** I love Montana but want to explore other parts of the world. I would like to be working in wetlands conservation, spending time in nature, and near the mountains. I want to be working hands-on with applied conservation projects. I also want to recognize my weaknesses and strengthen those through education.

**How do you spend your leisure time?** Hiking, snowboarding, crafts, and roller derby.

### THE 2022 AUDUBON PHOTOGRAPHY AWARDS

You're wild about birds and your camera. Combine your passions by entering the **2022 AUDUBON PHOTOGRAPHY AWARDS**. There is a video category and a female bird category. You could win a cash prize or—if you're our Youth winner—a special trip that will help you become an even better birder or bird photographer. Winning photos will be published in *Audubon Magazine* at audubon.org/photoawards-entry. **ENTRY PERIOD:** Jan. 12–March 9, 2022 at 12 p.m. (noon) Eastern Daylight Time.

# IT'S NOT TOO LATE TO RENEW YOUR MEMBERSHIP!

Thank you to all of the Sacajawea Audubon Society members who renewed their membership for 2022, and a special thanks to those of you who joined for the first time. We are thrilled and grateful for your support, and can't wait to get out bird watching with you! If you haven't had the chance to renew your membership yet, you can fill out the form below and mail it to PO Box 1711, Bozeman, MT 59771-1711 OR visit us online at https://sacajaweaaudubon.org/join-sas. **Thank you!**

## Sacajawea Audubon Society Membership 2022

Individual or Family
*January -December 2022*

☐ *YES!* I have included $25 for my 2022 SACAJAWEA AUDUBON CALENDAR

☐ Basic Membership ..... $25

☐ Supporting Membership ..... $50
*(Supporting local conservation & education projects)*

☐ Thank You for Considering an Additional Donation .....$_____

- ☐ *Bridger Raptor Study*
- ☐ *Education Projects*
- ☐ *Story Mill Park Bird Feeding Station*
- ☐ *Wetland Campaign*
- ☐ *Conservation Projects*
- ☐ *Wherever Needed*

Name _____

Address _____
*(Street or PO Box)*

_____ _____ _____
*(City)* *(State)* *(Zip)*

Phone (  )

Email _____

❖ Sacajawea Audubon Newsletter is sent by email. ☐ *I would like a paper newsletter mailed to me.*

❖ We do not share your information except with National Audubon, so your contact information is safe with us. Please check this box ☐ if you do not want your information shared with the National Audubon Society.

☐ *YES!* I have included another $20 to join National Audubon Society

**Mail this form and your check to:** *Sacajawea Audubon Society*
*Attn: Membership*
*PO Box 1711*
*Bozeman, MT 59771-1711*

Thank you for your membership and donation. We look forward to birding with you!

2/22 Newsletter

## WE HAVE RAFFLE WINNERS!

Congratulations to **Kevin Bourgo** and **Michelle Elder**. Each is a lucky winner of a **Bridger Bowl season pass**. Thank you to all who purchased raffle tickets to support the **Bridger Raptor Migration Survey**!

The Bridger Raptor Migration Survey is made possible through a long-term partnership between Sacajawea Audubon Society and HawkWatch International, with financial and/or logistical support from Bridger Bowl Ski Area, Custer Helena National Forest, as well as a great many individual donors and volunteer counters from the Bozeman-area community and beyond.

Daily observations were conducted on 56 of a possible 66 days. A total of 2,729 migrating raptors were observed in 2021, with a total of 1,073 Golden Eagles.

**THANK YOU** to all project funders, partners, volunteer observers and visitors who generously supported and participated in our 30th consecutive season of the Bridger raptor migration study. With everyone's continued support, we look forward to continuing this project for another 30 years and beyond!

*Visitors glass for raptors on the Bridger Ridge viewing pad during the 2021 RaptorFest. Photo courtesy of Steve Hoffman.*

**Sacajawea Audubon Society**
**P.O. Box 1711**
**Bozeman, MT 59771-1771**

*Change Service Requested*

**Sacajawea Audubon Society**, affiliated with the National Audubon Society, meets on the second Monday of each month, September through May.

**Sacajawea Audubon Society's Monthly Newsletter** is available electronically to all Sacajawea Audubon Society members, September through May.

Deadline for article submission is the 15th of the month preceding the month the articles will appear. Send articles electronically to newsletter@sacajaweaaudubon.org.

**Change of Address:** If you have a change of address or are away, please notify membership@sacajaweaaudubon.org. Undeliverable mailed newsletters are returned to us for an extra fee.

Find more at the **Sacajawea Audubon Society website** at sacajaweaaudubon.org

# JOIN THE GREAT BACKYARD BIRD COUNT!

## FEBRUARY 18-21, 2022

The **GREAT BACKYARD BIRD COUNT** is an inter-organizational effort between the Cornell Lab of Ornithology, National Audubon Society, and Birds Canada. We work together to bring the joys of bird watching to our members.

Participating is easy, fun to do—alone or with others—and can be done anywhere you find birds.

**STEP 1**: Decide where you will watch birds.

**STEP 2**: Watch birds for 15 minutes or more, at least once over the four days.

**STEP 3**: Count all the birds you see or hear within your planned time/location and use the best tool for sharing your bird sightings.

Find more information and step-by-step instructions for entering data at https://www.birdcount.org

*Gray-crowned Rosy-Finches and Mountain Chickadee photos by Terri Narotzky.*