

*Program Meeting
Who/What is WW First -
The Importance of Backyard Reserves
with David Linn
Hoquiam Library Meeting Room
February 4, 2023 11:00 am - 1:00 pm
NOTE MEETING TIME CHANGE*

January
February
2024



The Sandpiper



photo by John Corden, Macaulay Library

Who wins at the bird feeder—the lone wolf or the social butterfly?

Conflicts at the seed station.

By Marc Devokaitis

When hordes of chickadees, finches, and woodpeckers descend on a backyard bird feeder, squabbles are bound to erupt: Sometimes getting a choice morsel means muscling your way into position.

Minimizing conflict in these situations is good for birds, says Cornell Lab of Ornithology Research Associate Eliot Miller: “It takes energy to fight, and it can be dangerous, so it usually makes sense to avoid it.”

In 2017, a team led by Miller used Project FeederWatch data to analyze such conflicts—moments when one bird displaces another at a food source. The results, published in the journal *Behavioral Ecology*, gave rise to a dominance-hierarchy ranking for backyard birds: a guide to which species were most likely to hold their ground in one-on-one confrontations with other species, and which ones were more likely to turn tail and fly.

Now, other scientists are picking up where Miller left off, using an ever-growing set of FeederWatch data to dive deeper into the behaviors, social relationships, and physical traits that shape conflict at the bird feeder.

Biologist Roslyn Dakin of Carleton University in Canada was inspired by Miller’s 2017 study to look into whether a bird’s social tendencies affect their place in the pecking order. For example, some

birds, such as finches and House Sparrows, are social butterflies that often visit feeders in groups, while others, such as woodpeckers and nuthatches, are more likely to be lone wolves.

Working with Carleton PhD student Ilias Berberi, Dakin analyzed 6.1 million FeederWatch observations to determine the average group size at feeders for 68 species.

“What we realized once we got into [the FeederWatch data] is that it actually presents all kinds of opportunities that we don’t have otherwise,” says Dakin. “It lets us ask questions that we couldn’t possibly ask through the observations of any one scientist or even a small team of scientists because no one person could observe communities across an entire continent.”

Next the team looked into 55,000 recorded one-on-one dominance interactions in the FeederWatch dataset to see if the loner birds or social birds are better at displacing other birds. Their results, published in the journal *Proceedings of the Royal Society B* in February 2023, showed that birds like White-breasted Nuthatch and Red-bellied Woodpecker (lone wolves that were among the least social birds in the study) were also among the most likely to displace others. At the other end of the spectrum, the social butterflies that usually visited feeders in groups, such as American Goldfinches and House Sparrows, were most likely to flee the scene when facing off against a foe of similar stature.

But there was a caveat: When these socially inclined birds came to feed in groups, their performance improved. For example, highly social Pine Siskins lose most encounters when they are alone, but when a group of five visits together their individual interactions, on average, become twice as successful.

Conversely, some birds that tend to be lone wolves, like Northern Cardinals, became less successful in feeder showdowns when they visited in groups.

“We think that these effects might be driven by what the birds are paying attention to,” says Dakin. “So maybe when cardinals are there in a group,

Continued on page 4

The President's Perch



By Janet Strong

Hello, all. Please stay warm during this historic low temperature regime in the U.S. Luckily, we are suffering through less frigid conditions than many states, even than eastern Washington. Nonetheless, we are shivering and not used to this much coldness. Perhaps, by the time you read this, the weather extremes will have slacked off a bit.

January is GHAS' membership month, time for new members to step up and current members to renew their annual memberships. You can copy the form in this Sandpiper and send it in to P. O. box 470, Montesano 98563. Thank you very much, in advance, because your memberships keep us going as a viable organization.

Grays Harbor Audubon Society is the proud owner of 3278 acres of natural habitat in Grays Harbor, Pacific and Jefferson (one parcel) Counties. These are managed rather passively for the most part, allowed to restore themselves into better and better habitat for birds, wildlife, and fish. At times some intervention is needed to address trespass and theft issues. Currently we are trying to remove dumped items and better block vehicle access on our large, forested parcel along Highway 109. Thanks to several volunteers who have helped thus far.

Others of our beautiful properties have recently come to the attention of groups focused on improving salmon habitat. These parcels abut large streams important for salmon. Cloquallum Creek in east Grays Harbor County is salmon-rich but has a bad problem with invasive knotweed along its shores. The Grays Harbor Conservation District (GH CD) is organizing a project involving landowners in that sub-basin to eradicate said knotweed over several years' time. Our 26 acre parcel called Frontier (on the shoreline) will be involved. The CD will employ only Imazapyr spray, considered harmless to fish, wildlife and humans.

A bigger long-range project involving our Kirkpatrick Road properties and the whole middle Humptulips River stretch has been initiated by the Quinault Indian Nation for the goal of improving habitat for coho salmon. The GH CD and consultants Natural Systems Design are also involved. Below is a photo of a fish-friendly side channel found on one of our parcels. A report is forthcoming about how salmon-friendly our shoreline is.

Any proposed changes recommended by the group will have to be reviewed and approved by the GHAS as landowners.



photo by Caprice Fasano

Membership dues for 2024

Your support of Grays Harbor Audubon Society (GHAS) helps to assure that our over 3000 acres of prime wetlands and wildlife habitat are protected for future generations.

In addition, your tax-deductible donation helps the chapter provide our informational website, member meetings, and support to like-minded organizations.

Your membership renews January 1, 2024. Please send your dues to GHAS PO Box 470 Montesano, Washington 98563.

Please join or renew at the highest level you can afford. See page 8 for a membership form.



all photos by David Linn

Member Meeting

Join us at the Hoquiam Public Library at 420 Seventh Street from 11:00 am - 1:30 pm, Sunday February 4, 2023 for a Who What Why and Where of Washington Wildlife First. Our presenter David Linn is a board member and treasurer for Washington Wildlife First (WW1). WW1 is a 501 (c) (3) charitable organization which was formed in June 2021 with a mission to reform Washington's management of its fish, wildlife, and wild spaces in order to protect and preserve them. It took a lead role in coordinating efforts to eliminate the spring bear hunt and is actively involved with the governor's office to appoint conservation-minded commissioners.

During his working career David was employed in a variety of industries ranging from manufacturing to investment management. Since retiring, David has been an active participant in advocating for environmental and wildlife issues. He testifies frequently before the WDFW commission about current issues which have ranged from wolf recovery and bear hunting to fishery topics. He has provided testimony to the state House and Senate Natural Resources Committees on bills concerning wolves, net pen aquaculture, agricultural pesticide use and cougar protections.

As an avocation, David has acquired eight lots around his home in Ocean Shores and is currently developing a small (1 3/4 acre) wildlife habitat on his property. He has built a wildlife pond that attracts birds, deer, squirrels, raccoons, mice and larger mammals. Of these lots, five are undisturbed providing a natural habitat for the local wildlife. The other three had been partially cleared for camping in the past. On those lots, he has been replanting with native trees and vegetation. Some of those species are hemlock, red cedar and Douglas fir to diversify the existing Sitka spruce and shore pines. With numerous trail cameras



throughout the property, he has recorded videos of coyotes, black bears, and cougars, along with the more numerous deer, raccoons and opossum which have passed through the property. David is an avid bird photographer and has photographed 45 different species of birds visiting this habitat.



Christmas Bird Count Stats

by Dianna Moore

What were you doing on January 1st, 2024? Twenty-eight intrepid birders spent their first day of the new year following the movements of our local birds in the 51st Grays Harbor Christmas Bird Count (CBC). Most of these people were returning for this count but a few were newcomers to both this count and to participating in any CBC. Thanks to some good birding weather, I believe everyone enjoyed the day. I did get at least one of the regulars sitting out this year due to the Huskies playoff game, but most knew they could get the count done AND keep up with the afternoon game.

Our chapter president Jan Strong joined forces with Bob and Christina Morse to cover Bottle Beach State Park as it was also one of the locations for a First Day walk conducted by Lisa from State Parks, well attended by 97 people. A few notable sightings were Mary O'Neil and Barb Jorgenson's eight Townsend's Warblers in their north Hoquiam Area 7a, while the greatest number of birds and most species were found by the Area 10 Westport group, including a whopping 354 Mallards, 190 Rock Pigeons, 14 Bald Eagles and 82 Varied Thrush! Area 7B, which covers the Hoquiam Airport and Grays Harbor National Wildlife Refuge didn't disappoint. They had the greatest number and variety of ducks and geese as well as 11 Bald Eagles, 1,226 Pine Siskins and the only "Rare Bird" report for a pair of Common Yellowthroat, with photos.

For those who want the bottom line, we had a total of 114 species and a grand total of 26,986 individual birds. Not bad for a day's work.

Thank you to all who participated and I'm looking forward to the 2024 count. If you would like to join us, contact me some time this year and I'll find a spot for you. Dianna Moore

osdlm1945@gmail.com

Feeder dominance continued from page 1

they're paying attention to each other and might be more prone to being displaced by a different species."

Another study, published in 2024 in the journal *Nature Communications* and led by Gavin Leighton, an assistant professor of biology at Buffalo State University, investigated what happens to the dominance hierarchy when a new face shows up at the bird feeder. Leighton and his team looked at around 1,600 interactions from more than 100 different bird species in the FeederWatch data and determined that "synoptic" species—pairs of species that usually overlap in space and time—get into fights less than expected. On the other hand, species that are not often found together fight more than expected when their paths cross.

For example, chickadees, goldfinches, and juncos seem to avoid getting into scuffles even though they're often shoulder to shoulder at feeders. On the other hand, chickadees seem to be spoiling for a fight with Yellow-rumped Warblers.

"It all comes down to energy," says Leighton. "You don't want to get into fights you know you'll lose. When birds see each other on a regular basis, they're more likely to know whether they are the subordinate one or the dominant one. If you are in close proximity to someone you know is likely to beat you, it's more advantageous to just leave before anything happens."

Project FeederWatch is a joint project of the Cornell Lab of Ornithology and Birds Canada. For more than 35 years, FeederWatchers have kept track of the birds at their feeders from late fall to early spring and shared their data with scientists. More than 45 research papers using FeederWatch data have been published in scientific journals. More about FeederWatch.

Both Dakin and Leighton are continuing to use FeederWatch data to tease apart the social networks at bird feeders. Leighton is currently studying whether harsh weather makes it more likely that a subordinate species will resist in an attack; Dakin is interested in how weather affects group size at bird feeders.

Emma Greig, the project leader for FeederWatch at the Cornell Lab, says she's thrilled the data is being used in new ways, and that thousands of FeederWatchers are continuing to report dominance interactions in their observations.

"We can use bird counts to infer things about behavior, but now we can also use people's direct observations of behavioral interactions to learn how birds relate to one another," says Greig. "It's really fantastic data."



In the field

by Mary O'Neil, Field Trip Coordinator

One of the primary objectives of the Audubon Society is to provide an opportunity to get together for the appreciation of birds/bird life. To this end we are going to try to offer field trips which we have not enjoyed since 2020. Beginning in February, we will offer 2 formal field trips per month. Please check your calendar and be ready to roll:

February

February 7 (Wednesday) - Tokeland

February 24 (Saturday) - Copallis Beach

For the trip to Tokeland, we can meet in the **Tractor Supply** parking lot closest to Highway 12 around 9:30am. After taking our time to canvass the Tokeland marina, we can check a few other points of interest such as the cranberry bogs, Midway Beach and possibly the Twin Harbors campground.

For the trip to Copallis Beach, we can meet at 9:00 at **The Flooring Company** parking lot on the corner of 6th and Simpson in Hoquiam

March

March 7 (Thursday) - Quinalt

Meet at **Flooring Company** parking Lot in Hoquiam at 8:30 am

Sunday, March 17 (Sunday) - Brady Loop

Meet at **Tractor Supply** parking area closest to Highway 12 at 8:30.

If you come from east of the Brady area, RSVP for meeting place

Please note if these dates and times do not work for you, please contact me directly. I would like to set up an email group that would be interested in spur-of-the-moment expeditions,

Looking forward to exploring for the birds with you soon.



Photo by Barry Jerald, Jr.

Five ways birds change their bodies for spring and fall migration

by Kevin Johnson, Reporter Audubon Magazine

It's tempting to compare bird migration to marathon running. In both, participants prepare intensely and undergo an extreme test of endurance. But the similarities stop there. Though marathon runners push the human body to its limits—during the 26.2-mile race, core temperatures spike to 102 degrees Fahrenheit and the heart pumps three to four times more blood than usual—birds radically change their bodies and their metabolism for the main event. In just weeks or months, they undergo physical transformation unmatched by human gains from years of training. To fly vast distances between breeding and wintering grounds, birds can shrink their internal organs, rapidly gain and burn through fat stores, barely sleep, and more.

These are incredible abilities, but they come with tradeoffs. The energy required to fly hundreds or thousands of miles in a short span leaves birds with little room for error during migration, and vulnerable to natural and human-caused threats. In North America alone, an estimated 2.6 billion birds disappear between fall and spring migration every year. Researchers pin many of these losses on migration, when birds must survive storms and cold snaps, navigate skyscrapers and other buildings, avoid predators, and successfully forage for food or else fail to complete their journeys.

Migration is perilous, but it's also wondrous. Here are some of the incredible ways birds sculpt their bodies for their journeys.

Double Their Body Weight

A bird's first inkling that it's time to shift into migration mode comes from seasonal changes in its surroundings, says Paul Bartell, professor of avian biology at Penn State University. When the days shorten at the end of summer, birds undergo

hyperphagia: They eat excessive amounts of food for two weeks or more to store fat before migration. During this time, birds gorge on high-energy berries and fruits loaded with carbohydrates and lipids, which are stored as fat.

Birds' reliance on fat is unusual in the animal kingdom. "It's remarkable that they're using fats as fuel," says Scott McWilliams, professor of wildlife ecology and physiology at the University of Rhode Island. People, for example, rely primarily on carbohydrates for endurance activities because our system can efficiently convert them to usable energy. But for birds, fat makes sense. Fat is lighter and less bulky than carbohydrates and protein—important for lightweight, small-framed bodies that must stay aloft by wingbeat. Plus, fat contains more energy than carbs. "You get the most energy per gram that you store, if you want to fly long distance," McWilliams says. As they fly, birds can replenish fat by taking breaks to refuel. This is why it's so important to grow native plants that produce the lipid-rich berries birds need.

Ruby-throated Hummingbirds are best known for packing on the grams: Most double their body weight in fat, or more, before embarking on migrations. Some even gain close to half that in just four days. They need it, since their metabolism is one of the highest of any animal on Earth. They require the human equivalent of over 150,000 calories every day to power their fast-moving heart and wings, which can beat 1,000 and 3,000 times per minute, respectively. That fat accumulated before migration is burned in a steady release of energy, ideal for the 2,000-mile journey many Ruby-throated Hummingbirds make twice a year.

Transform Internal Organs

To fly 6,800 miles nonstop from Alaska to New Zealand each fall, Bar-tailed Godwits absorb parts of their digestive tract to make room for more fat to fuel their journey. All that fat added on to a bird's small frame can't just sit anywhere—it must be distributed properly. To make it all fit, many birds are able to shrink and grow their internal organs. To make room for energy-rich fat, godwits absorb into their body 25 percent of the tissue comprising their liver, kidneys, and digestive tract. This happens through a natural cellular process that lets the body recycle and clean up its cells and tissues called autophagy (which means "self-eating" in Greek). Godwit also increase the size of their heart and chest muscles to distribute extra energy and oxygen to these highly active areas mid-flight.

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“Flying is the most energy-intensive form of locomotion,” McWilliams says. “But it’s also more efficient if you want to go farther, faster. You actually get better fuel economy when you use fat as fuel for a flying animal compared to a runner.”

Birds also undergo organ transformation during hyperphagia. While gorging on berries and bugs to gain weight, songbirds like Blackpoll Warblers expand their digestive tract to process more food, and quickly shrink and re-absorb parts of the same system during migration as they burn fat. According to McWilliams, this keeps energy focused on the most important flight muscles, reducing any need for frequent fueling at stopover sites.

Greatly Reduce Their Sleep Time

The need for sleep might be a barrier to human endurance, but for birds it’s just another physiological rule to break. During migration, a neurological shift instigated by the changing season forces birds to adapt to nocturnal habits and sleep less. How do birds rest while in mid-air? Very quickly. Swainson’s Thrushes, which undertake 3,000-mile migrations from Central and South America to northern Canada and Alaska, enter a sleep-like state for about nine seconds at a time. They keep one half of their brain awake to avoid predators or mid-air collisions while the other half rests.

The neurological change from breeding- and wintering-season sleep habits to migration sleep is as crucial to bird endurance as metabolic changes, says Bartell. “They are somehow resilient to all this increased fat and the detrimental effects of staying up almost all night,” he says. “And they actually performed better than if they were in a non-migratory state.”

Consume Their Own Muscles

Swainson’s Thrushes will burn their own muscles as energy if it’ll get them to a food-rich rest stop, maybe one with Red Elderberries.

When endurance athletes exhaust their carbohydrate and fat supplies, they face dehydration and starvation. For humans, those needs can put an end to any athletic performance. But birds have a last-ditch backup: They can burn their muscles for energy, a trick that some birds use to their advantage. Experiments done in a wind tunnel in 2011 revealed how Swainson’s Thrushes—typically flying up to 200 miles in a single stretch during migration—even burn muscle unnecessarily so they can fly farther and reach the most beneficial stopover sites. It is risky, though, if they can’t recover that lost muscle after migration.

Revert to Their Previous Form

Once birds reach their destination, they need to

regain their organ function and shape, and refuel now-emaciated fat stores. It’s an urgent task during spring migration because soon as they reach their breeding ground, birds must do the hard work of breeding: attracting mates, and producing and raising hungry young chicks—all while still taking care of themselves. “Essentially, they need to instantly start making territories and reproducing,” Bartell says. “If they can’t get food within a couple hours or are delayed after landing, they can actually starve to death.”

The stakes are lower during fall migration because birds don’t need to breed upon landing, plus the warmer, tropical areas in the south tend to have more food available. “All they’re trying to do usually is maintain the body mass at a certain level and get through the winter,” McWilliams says. Birds on average need to restore between 17 and 23 percent of their body weight in fat upon arrival, and also account for significant protein and water loss depending on their species and migratory pattern.

It’s an astounding balance to maintain while already undergoing spectacular trips across the world. But if we’ve learned anything about birds and migration at this point, it’s that we shouldn’t be surprised by anything.

Shorebird Festival Opportunity

by Arnie Martin

We still need to find a replacement person who could work on the planning and execution of the 2024 Grays Harbor Shorebird and Nature Festival (May 3rd through May 5th 2024). The person needs to be a member of GHAS who has time to spend 10 to 15 hours per month in planning (mostly via Zoom), spend all day during the several days prior to the 2024 Festival, and 12 hours per day during the Festival.

The person must have transportation, some computer skills, and the ability to work with other Grays Harbor Shorebird Festival committee members who keep the Grays Harbor National Wildlife Refuge property at Bowerman Basin operational.

The biggest need is for a person who is passionate about protecting birds and wildlife, who can devote their time during several years’ Festivals. I would be available to act as a guide plus advisor. If you are interested, please call me at 360-580-1961, and we can discuss any questions you may have, prior to having an interview with GHAS and USF&W personnel.



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GHAS Mission

The mission of the Grays Harbor Audubon Society is to seek a sustainable balance between human activity and the needs of the environment, and to promote enjoyment of birds and the natural world

Other Audubon Contacts

GHAS voice mail	(360) 495-3950
National Audubon	(212) 979-3000
GHAS Website	<i>http://ghas.org</i>

****all area codes 360, unless otherwise noted****

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If you would like to join Grays Harbor Audubon Society (GHAS), please fill out the form below, **make your check payable to Grays Harbor Audubon Society** and return it with your check to:

**Grays Harbor Audubon Society
P.O. Box 470
Montesano, WA 98563**

Chapter Memberships include a subscription to *The Sandpiper* newsletter. The Grays Harbor Audubon Society is totally self-supporting. Please note that the Sandpiper Newsletter is sent via email, so please include your email address on this form or send it to Linda Orgel at Ldotorg@olearycreek.com

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- I am renewing my membership
 I am a new member

Please do NOT publish my name in the newsletter in the list of GHAS members

To join National Audubon or renew your National Audubon Membership, call 1-800-274-4201.

News & Editorial

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Copy deadline 10th of
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membership meeting

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