

*The*  
MAINE NATURAL HISTORY  
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Issue 2



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## Contents

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<b>A Look at the Wintering “Mussel Muncher”</b>	4
Sandra Mitchell	
<b>A Whisker of Shrewlets</b>	7
Kirk Gentalen	
<b>On the Wing: The Dichotomy of eBird.org in Bird Conservation Efforts</b>	14
Joshua Bowring	
<b>Releasing My First Monarch Butterfly</b>	17
Laura Ganz	
<b>INFOGRAPHIC: <i>Dumontia contorta</i> &amp; <i>Devaleraea ramentacea</i></b>	24
Jordan Chalfant	

### A LOOK BACK

<b>Snow, Geese, and Ice (Maine Field Observer, April 1956, Volume 1 Number 4)</b>	25
Christopher M. Packard	

### NOTES FROM THE FIELD

<b>What Was a Hepatic Tanager Doing in Stockton Springs in December?</b>	27
Tom Aversa	
<b>Mola Mola</b>	29
John DeWitt	
<b>Autumn 2023 Seasonal Summary of Schoodic Institute’s Schoodic Point Sea Watch</b>	31
Seth Benz	

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**Cover Image:** Shrewlets  
 Photograph © by Kirk Gentalen.  
 Article page 7-13 this issue.

<b>As the Vernal Pool Turns</b>	<b>34</b>
Leigh Macmillen Hayes	
<b>2023 Cadillac Mountain Autumn Hawk Watch Summary</b>	<b>39</b>
Seth Benz & Angi King Johnston	
<b>Snowy Nature</b>	<b>41</b>
Isabella Sachlikidis	
<b>Purple Sandpiper</b>	<b>42</b>
Kirk Gentalen	
<b>Tuberous Structures in <i>Utricularia inflata</i></b>	<b>44</b>
Debbie Broderick	
<b>Red-throated Loon</b>	<b>46</b>
Lewis Holmes	
<b>Male Polyphemus Moth</b>	<b>51</b>
Renee Hemingway	
<b>Twenty Years of Observing Bluebirds Who Now Winter in Maine</b>	<b>52</b>
Janet Galle	

## A Look at the Wintering “Mussel Muncher”

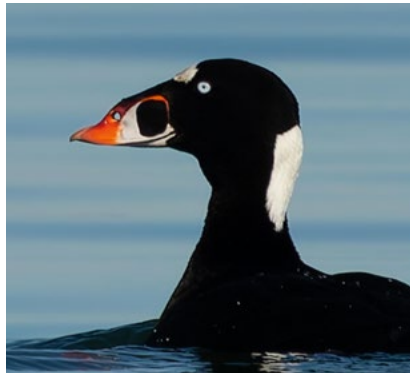
BY SANDRA MITCHELL (TheFourDucks@protonmail.com) PHOTOS BY THE AUTHOR



Summer brings to the coast of Maine the noisy, showy bills of the Atlantic Puffin, a favorite sight to locals and tourists alike. Fall and winter, however, bring a different colorful coastal visitor, the often-overlooked Surf Scoter.

This medium sized duck has a fascinating and unusual natural history to go along with the uncommon look for a duck. As is normal with many species of waterfowl, the male is the flashier of the species, while the female is more reed colored to allow her to blend in while sitting on her nest. Although the nickname “skunkhead” comes from the bright white head spots on an otherwise black bodied duck, the males’ bill is strikingly large with bold orange, black, and white spots. To add to the colorful and unique look, these ducks also sport a captivating bright blue eye. These features all play a role in the mating display, where multiple males may show off for a single female. Unfortunately for us, these ducks are often offshore and difficult to see unless a storm pattern brings them closer in to land where eager birdwatchers may seek them out with binoculars.

The large and unusual bill of the Surf Scoter does, of course, serve a unique purpose as well. These birds are extremely powerful divers and use their wings to “fly” as deep as 80 feet to obtain their preferred winter prey food – mussels and clams. Their rugged bill is needed to pry these delicacies off the rocks and ocean floor, which are then swallowed whole. The stout gizzard will crush the shells, allowing





the Scoter to digest its contents. They will augment this diet with marine snails, crabs, sea squirts, marine worms, and hydrozoans. Scoters aren't chasing fish when they dive, rather they are headed down to the bottom in relatively shallow waters to forage there. When Surf Scoters leave Maine and return to their breeding grounds, they will add other crustaceans, insects, and plant materials to their diet.

The migration of these birds is equally fascinating. Most of them overwinter on the West Coast, going as far south as Baja California. When on their winter grounds, scoters will often fly in large mixed flocks of ducks single file and low over the water. Surf Scoters will start their breeding behaviors before leaving the wintering grounds to head to their nesting areas – and they are the only scoter species that breeds solely in North America. Very interestingly, they convert from being a “sea duck” complete with glands to filter salt out of the bloodstream and excrete it through their nostrils to breeding in the freshwater regions of the remote boreal forests of Canada and North America. While on their breeding grounds, the salt processing glands atrophy, only to return when they complete the migration back to the ocean for the winter.

Bonded pairs migrate together to the nesting grounds, often in large flocks of birds. Once on the breeding grounds, the males defend a moving territory around the female, and she builds a nest near a pond, bog, stream, or lake. Typically, these nests are well hidden depressions on the ground lined with mosses, grass, down feathers, and bark. The subtle coloring of the female allows this nest to be nearly completely concealed during incubation. The clutch will have five to eight eggs, which will all hatch simultaneously and then follow their mother to the nearest water.

Nestlings are precocial, meaning that mom provides them no care other than protection early in life – they quickly learn to swim and feed themselves with little or no assistance from their parents. There may be multiple groups of scoters on a given body of water, and the young will often switch from one group to another without preference for “their” natal group. Because the parents

provide minimal care, there may not be an evolutionary drive against these types of mix-ups. Once the young no longer need parental protection, the adults have one more natural history surprise up their sleeves.

Surf Scoters are what are known as “molt migrants”, which means that after raising their young, the adults fly to an area which they consider safe to shed their flight feathers. They become entirely unable to fly for a period of time until the feathers regrow – so an area that provides protection from both predators and weather becomes important. Some of these spots include sheltered waters from southeastern Alaska to Puget Sound, as well as in Quebec and New Brunswick. Once the feathers have regrown, they are able to continue their migration to the wintering ranges. These flight feathers are what is responsible for the distinctive “wing whistle” which can be heard as the Surf Scoter flies.



This fall migration is much more variable than the spring migration – and adult males, adult females, and immatures all move south at differing times and following different routes to reach their wintering grounds. Some immature birds will decide to skip the spring migration altogether and remain on the wintering grounds – but most of the birds will come to Maine just long enough to eat, rest up, enjoy the beautiful coastal scenery and seafood before moving back into the boreal forests again. As relatively long-lived birds (the oldest known was at least 19 years, 7 months old!) they will make this long commute many times in their lifetime. Be sure to take a little extra time before they leave for the summer to seek out this unusual and complicated resident of our winter coasts! §

### Further Reading

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# A Whisker of Shrewlets

BY KIRK GENTALEN (kgentalen@mcht.org)

PHOTOS BY THE AUTHOR

KNOX COUNTY, 7 JUNE 2023



**A**lright, we're going to cut right to the chase here with this post. I had an encounter with a "whisker of shrews" (I just learned that collective noun). It was on a midcoast Maine beach, of which I am not at liberty to say (let's just say I was working), when I noticed a fuzzy little ball of brown racing along the wrack line. It was no further than 10 feet away from me. "Rodent" was my first impression, but when the fuzz ball started darting around sniffing everything like a frenetic pinball, I knew it was a shrew! Nothing moves quite like a shrew.

I happened to have had my camera out—"at the ready" as people like to say—and started snapping shots in classic nature-observer fashion, from a distance and at all kinds of angles in case it disappeared (which it never did). I took about a hundred photos (thank you, digital camera!) from about eight feet away, and then noticed there was another brown fuzz ball on the far side of the hiding log. But wait! There were two fuzz balls running amuck along the far side of the log! A family it seemed to be and in the end, it turns out they were likely siblings that had been weaned, maybe that day or even just minutes before. Setting yourself up for success (being in the right place and looking) is super important in nature observing, but timing really is everything. I had walked by that spot four times already, but the right time for shrew watching was finally here, and there they were.

## Shrews on the Move

I took a stealthy step closer and then another, and then one more... I noticed



no change in the shrews' behaviors. Eventually, I was standing next to them, almost towering over them. They did not seem bothered by my presence.

I see shrews maybe a couple of times a year, often it's no more than a quick flash of movement. Once, my friend John and I watched a shrew scurry across an ice sheet that had formed over a tidal land bridge connecting one island to another. We watched it go 15 feet in an impressive outpouring of energy and effort. It was exhausting just watching it.

At first glance, shrews come across a bit like highly caf-

feinated mice. In the woods their frenetic rustling around in leaf litter can be downright loud. They also lack a certain amount of short-term memory (or any long-term memory for that matter) and thus their survival instincts aren't always apparent. They are too busy looking for food to be threatened by the approaching, towering creature (me) that weighs about 14,080 times more than they do. They don't seem to scurry away at all, which makes me think they are seldom seen, not because they are particularly good at hiding, but more likely because their more often hunting in well protected habitats... I think that is called survival.

### Getting' Shew'd

I ended up enjoying an extended afternoon with these beach-loving youngsters, which was likely due to their young age (welcome to earth!)—I imagine that I was the first human they ever saw (although I'm not actually sure if they saw me). The rocky beach habitat made a difference as well. There was one log to hide under, but the shrews weren't interested in hiding (or so it seemed), they were interested in eating. And the prey they were mackin' on were amphipods living in between rocks and in the washed-up seaweed, not worms under leaves or critters in tall grass.

### A Few Shrew Basics

Shrews (family Soricidae) are small mammals classified in the order Eulipotyphla. Eulipotyphla can be translated as "truly fat and blind." It's an order whose



members also include moles and hedgehogs. Historically, shrews have fallen into the “insectivore” group of mammals, but that division seems to have been eliminated (probably due to increased knowledge and understanding through DNA research). But they still live off insects and a variety of other living creatures. So, beyond superficially resembling rodents they kinda live a different lifestyle. Carnivorous.

Shrews are the smallest mammals in North America, but don't let their size fool ya. While they mostly eat invertebrates, shrews are also known to eat small mice and salamanders, as well as fungi and seeds. They hunt mostly by a combination of smell and touch—those whiskers are sensitive! They have eyes, but just how much they use them is up for discussion. Shrews use underground tunnels and paths below leaf litter or through grasses, and are mostly nocturnal, light is not necessarily a big part of their life. They didn't seem to see me at all on the beach, or maybe they did and my beard made them feel at ease. Maybe, maybe not.

Here's a quote from Fiona Reid from the *Peterson Field Guide Mammals of North America*.

“They are well known for their nervous and high-strung behavior as for their legendary consumption of food. In captivity, many species will eat two or more times their weight in food each day and may die of starvation or stress if food-deprived for a few hours. In the wild many shrews are exposed to periods of food shortage. They survive these periods by resting or becoming torpid.”

Thanks Fiona! And may I say, what a lifestyle! I remember back in the day (college) learning about using live traps for scientific mammal population surveys and being told to always put food and natural materials in the traps in case you caught a shrew. Without the food and materials to keep warm the shrews could die overnight! In the name of science!

### **Life in the Fast Lane**

Back in the day (college) I was introduced to the idea that mammals that live to the full extent of time that their bodies can support would all have a similar number of heartbeats over their entire life. The



number that we see again and again is one billion heart beats per mammal. This concept means that any mammal without predestined health issues (genetic bummer) or crossing a path with unfortunate timing (such is life) gets roughly one billion heartbeats before their heart stops. I did not make that number up, but I also don't know if it's totally accurate, but let's go with it!

This is a good way to compare heart rates between species. For example, the heart of a healthy human surviving to 90 (ish) would have the same (or close to) number of beats as the heart of a Humpback Whale that lives to 150 (ish). This goes to show, the heart rate of a Humpback Whale is much slower than that of a human.

Well, shrews in the wild have a life expectancy of about 14-16 months, depending on species. For a fully aged, 16-month-old shrew whose heart reaches the one billion mark this would mean 62 million 500 thousands heart beats a month.

Or (2,083,333) beats a day,  
or (86,805) an hour,  
or (1,447) beats a minute,  
or roughly 25 heartbeats a second!

It takes energy, and lots of it to keep this pace up. Thus the voracious appetite and napping/torpor breaks when food is scarce. Quite the metabolism shrews must have to process enough food into enough energy to keep that heart pumping!

Here's how Elbroch and Rinehart describe a shrews lifestyle in the Peterson reference book *Behavior of North American Mammals*.

“To consider the life of a shrew is to consider what it must be like to weigh as little as a cotton ball, to catch and subdue other animals for food, and to have a metabolism that runs so fast you are in constant danger of starving.”

I must have watched the three little ones on the beach get a few dozen or more amphipods, and many more were certainly devoured that day. The videos I took of the shrews captured the sense of urgency to their hunting. Turns out that is classic shrew, at 25 heartbeats a second. ([See video](#))

### **Shrew Natural History Fun Facts...**

“Shrews are unusual among mammals in a number of respects. Unlike most mammals, some species of shrews are venomous. Shrew venom is not conducted into the wound by fangs, but by grooves in the teeth. The venom contains various compounds, and the contents of the venom glands of the American Short-tailed Shrew are sufficient to kill 200 mice by intravenous injection. One chemical extracted from shrew venom may be potentially useful in the treatment of high blood pressure, while another compound may be useful in the treatment of some neuromuscular diseases and migraines. The saliva of the Northern Short-



tailed Shrew (*Blarina brevicauda*) contains soricidin, a peptide which has been studied for use in treating ovarian cancer. Also, along with the bats and toothed whales, some species of shrews use echolocation. Unlike most other mammals, shrews lack zygomatic bones (also called the jugals), so have incomplete zygomatic arches.”

Before you go all zygomatic on me, what this means is that shrews are cool. There’s a lot going on with those little buggers. And it turns out that while

we don’t see them all the time, there are lots of them out there!

“The shrew family has 385 known species, making it the fourth-most species-diverse mammal family. The only mammal families with more species are the muroid rodent families (Muridae and Cricetidae) and the bat family Vespertilionidae. The shrew family also probably has the largest population of any mammal family: there are an estimated 100 billion shrews in the world, with an average of a few shrews per hectare of forest.”

Is that the coolest or what?

Whatsmore... From Fiona Reid once again...

“Shrews are typically solitary in habitats and can not be maintained together in captivity.”

This confirms the hunch I had that the shrews I was watching were young. Not only were they oblivious and way (WAY) out in the open and exposed to dangers, but they were also getting along very well. Rolling and tumbling with each other with no parental supervision gave me the impression that these shrews were still very young. Which begs the question, “at what age does a shrew grow up?” Is it three months? Four?”

“Shrews are often very difficult to identify to species level. Shrews are often dead when encountered, allowing close inspection. It is often necessary to examine teeth with a hand lens to confirm identification.”

So here is the funniest part of the shrew encounter. After hanging with these youngsters, and taking about a gagillion photos (and some videos) I’m still not totally sure what species they were. And no, it’s not all about identifying things,

but when you have the photos in front of you, and such a close encounter fresh in your mind and you still aren't sure, well, that's just another piece of the shrew puzzle that makes them so cool. Birds are easy, shrews are shrew'd.

So I thought to myself, "What shrews are in Maine?" There aren't that many choices to begin with really. They certainly weren't large shrews—which means they couldn't have been Northern Short-tailed Shrews (*Blarina brevicauda*). They had relatively long tails, which means they could not have been the Pygmy Shrews (*Sorex hoyi*). This leaves us with the Smoky Shrew (*Sorex fumeus*) and Masked/Cinereus Shrews (*Sorex cinereus*).



The shrews' pale hind feet resembles that of a Smoky Shrew, but the size of the shrews made me think it was a Masked. One resource mentioned that Smoky Shrews are full grown when weaned... were these medium sized shrews then? How big is a medium sized shrew anyway? They seemed freakin' tiny.

The coloration of what I saw on the beach seemed paler than what I saw Smokey Shrews described as or what they looked like in photographs, but could that be a freshly weaned kind of thing? The tail was bi-colored, but not as dark as what I'd expect for Masked Shrew. But still, were the feet light enough and the tail pale enough to make them Smokies? Just writing all this makes me lean more towards Smoky than before. Smoky was my first instinct for identification! So maybe they were Smokies all along. I wish I got a better view of their teeth!

### **“It Just Doesn't Matter!” – a Quote from Meatball**

I had a ball during my beach time shrew session, watching a whisker of shrewlets just get to be shrewlets. Another set of youngsters in what has become “a season (or two) of youngsters” this year. Since seeing the shrewlets, there have been other young wildlife to spot. Juvenile raccoons, deer, and river otters have all emerged and are out and about exploring. Many songbirds are feeding their fledglings, providing a wonderfully demanding chatter in the woods, like the sound of young humans (humanlets?) at a playground who are demanding food, of course.

“Such are some of the challenges facing the many shrews that live all about



us, largely unseen and unknown. Despite their small sizes and secretive natures, if you want to see a shrew the first thing you have to do is slow down. It is not difficult to hear shrews rustling around in the duff and debris of the forest floor, or even calling out in high squeaks as they forage, but you will need to be still to do so. If you are lucky, you may see one dart from under a folded leaf to a rotten log nearby, but be watchful – they scurry so

quickly they are difficult for an eye to follow”- Elbroch and Rinehart

The shrew session takes the cake for me. Some of the best ten minutes I will spend all year. Timing was the key here, and I figure I will probably never have another session like this again, which is fine. Super fine in fact. I am not closed off to another shrew session, but I also don't take them for granted. Hope luck is with you and you get to have a shrew session soon. Keep the coast shrew'd!

We'll see you out there! §

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*Kirk Gentalen has worked as a land steward for Maine Coast Heritage Trust (MCHT) on Vinalhaven and North Haven islands since 2007. Before that, he worked for 14 years in environmental education and ecotourism in 11 different states. This piece was originally published as part of his Nature Bummin' series on the MCHT website. You can check out more of his nature writing at [www.mcht.org/story-tag/nature-bummin](http://www.mcht.org/story-tag/nature-bummin)*

# On the Wing: The Dichotomy of eBird.org in Bird Conservation Efforts

BY JOSHUA BOWRING (Joshua.Bowring@outlook.com)

PHOTOS BY THE AUTHOR



*Canvasback Duck*

**E**Bird serves as an invaluable tool in the realm of birdwatching. With its vast collection of millions of bird sightings from across the globe, it has amassed a wealth of data on bird distribution and abundance. This information is not only essential for the conservation of numerous species but also relies heavily on contributions from citizen scientists. Despite any initial doubts about the significance of individual bird sightings, every submission plays a vital role in identifying trends and understanding changes in bird distribution. By offering a comprehensive view of bird occurrences spanning various regions and habitats, eBird serves as a cornerstone in informing conservation efforts and prioritizing areas for protection and management. Consequently, the data submitted by users holds the potential to influence policy-making and guide effective management strategies for the benefit of bird populations worldwide.

Can you get informed when there is a rare bird sighting in your area? Yes, with eBird.org, you can stay informed about rare bird sightings in your area. The platform offers customizable alert options, allowing users to receive notifications regarding specific bird species or rarity levels (such as rare, very rare, or mega-rare) within a designated geographic area. These notifications can be delivered via

email or through the eBird mobile app, keeping users up-to-date on noteworthy bird sightings nearby.

Over the past four years, I have submitted more than 200 checklists to eBird.org. On numerous occasions, my sightings have been flagged and subsequently made it onto the rare bird list. These rare sightings undergo review by volunteers to ensure their validity. If insufficient information accompanies a report, one of the eBird volunteers will reach out via email, requesting field notes, audio recordings, and pictures before the information can be made public.

When does the act of providing information become a negative thing?

While eBird offers valuable insights for bird conservation, the involvement of duck hunters raises questions about its use and potential abuse.

In the autumn of 2022, a flock of Canvasback Ducks made an appearance on Cobbosseecontee Lake in Monmouth, Maine. This location is ranked among the top five destinations in Kennebec County on eBird. The birds were swiftly identified and recorded on November 4th, 2022. Canvasbacks are uncommon in Maine and earned a spot on the state's rare bird list. Consequently, numerous birders journeyed to the area, and each submitted report ensured the canvasbacks remained on the rare bird list.

On November 8th, 2022, a photo surfaced on the Maine Waterfowl Hunters Facebook page. The image features the bow of a beige kayak with two Canvasback Ducks draped over it in the foreground. Two Canvasback Duck decoys are visible in the water. Upon seeing the picture, my immediate thought turned to eBird. It's highly unlikely that many hunters in Maine utilize Canvasback Duck decoys. While there's no certainty that the individual is an eBird user, the presence of these birds on the rare bird list certainly raises questions. Additionally, the poster boasts about having hunted 25 species of waterfowl in Maine, a notably uncommon feat.

I'm not implying that the individual utilized eBird to target specific species, but the possibility exists. That single picture altered my perspective on eBird. Are we perhaps divulging too much information to the public through our findings? While there will always be individuals who abuse and exploit available resources, are we inadvertently making information too accessible? Consider a scenario where a hunter desires to locate and hunt a Pintail Duck. They could simply consult eBird for the most recent sightings and proceed to hunt the bird. Can any responsibility for the bird's demise be attributed to the birdwatcher? In my view, we may be making it too effortless to locate and hunt waterfowl, especially concerning rare or uncommon species listed on Maine's rare bird list, which is updated frequently, potentially notifying individuals of sightings hourly.

Ebird does protect sensitive species. Sensitive species are species that are at risk of being captured, killed, or are at severe risk when they are disturbed. Ebird protects these birds in multiple ways. On Ebird, sensitive species are hidden from general checklist views but remain accessible to observers on the checklist.



*Northern Pintail*

Furthermore, they are omitted from all site-level outputs, including the Hotspot Explorer and bar charts for hotspots. Sensitive species are exclusively showcased at the grid-cell level on eBird species maps. In region-level outputs like the Region Explorer and Illustrated Checklists, sensitive species are showcased without specific checklist details such as date, location, observer, or checklist link. Although they contribute to listing totals, they are never highlighted as the "most recent addition." During Media Search, sensitive species appear with omitted checklist details, limited to regions larger than a hotspot. Moreover, these species are distinctly labeled as "Sensitive" wherever they appear in output, with location-specific data removed. These measures guarantee their protection, especially on platforms such as the Region Explorer or Illustrated Checklist pages.

Here are some recommendations from eBird on how to report rare or vulnerable birds responsibly. These suggestions, straight from eBird itself, are invaluable. You can choose to delay submitting your report until after the hunting season has ended. Alternatively, if you prefer not to wait, eBird recommends waiting for at least eight days before submitting your report to keep it out of eBird alerts. Another excellent option is to hide the observation after submitting your checklist by selecting the corresponding option from the "Checklist Tools" dropdown menu.

There's always a human element involved, and we trust that individuals act with integrity and responsibility in safeguarding OUR birds. I use "our" deliberately, as ownership often instills a sense of duty towards protection. While I don't profess to have all the solutions, I advocate for action. It is my hope that eBird will consider implementing some form of protection for waterfowl during hunting seasons. Suggestions I propose include limiting the visibility of waterfowl during specific times of the year or potentially excluding waterfowl from the rare bird list, even if only on a regional basis. §



# Releasing My First Monarch Butterfly

BY LAURA GANZ (info@glaszart.com)

PHOTOS BY THE AUTHOR UNLESS OTHERWISE NOTED

FRANKLIN COUNTY, 26 AUGUST 2022



While there are mixed feelings about whether to raise Monarch butterflies indoors or not, there is no disputing that these gorgeous creatures have indeed been threatened with extinction. Over the last 20 years, monarch populations have fallen by more than 80 percent. Factors contributing to their alarming decrease in numbers have been due to landscape-scale threats from toxic pesticides, deforestation, and global climate change. There are steps you can take to help these butterflies and I will discuss them below.

In this article, I will share some information about these fascinating butterflies as well as my first experience with a chrysalis.

I was recently gifted a Monarch butterfly chrysalis that was housed in a mason jar. The chrysalis is the pupa stage of the Monarch butterfly's life cycle. This was a new and exciting endeavor for me and something that I have always been interested in getting





into. This past spring, I started growing milkweed from seed. It will take a few years before I see my plants reach full maturity. Monarchs use and benefit from a variety of milkweeds. Many butterfly species have a single plant required as a food source for their larval form called a host plant. Milkweed is the host plant for the Monarch butterfly. Without this plant, the larva would not be able to develop into butterflies. Although I will have to wait a few years before I can take care of Monarchs with my milkweed plants, I had the opportunity to take care of this particular chrysalis.

## Growth Stages of the Monarch Butterfly

Monarch butterflies (*Danaus plexippus*) have four life stages: egg, larva (caterpillar), pupa (chrysalis), and butterfly. Every part of the growth timeline of a Monarch butterfly is a sensitive time while in their chrysalis. Before they ever enter this stage, the caterpillar has to spin their silk mat, giving them a place to hang from. Once they have shed their skin, they can then start to form the chrysalis.



## The Pupa (Chrysalis)

A chrysalis goes through several changes during the brief time that a Monarch butterfly is inside. Initially, the pupa is bright green, slowly covering up the rings of green, yellow, and black of the caterpillar's body. The crown is called a diadem. If you look closely, it's a raised structure, a line of tiny hills. The combination of the raised hills and carotenoids present both absorb and reflect the light, cre-



ating the appearance of shiny gold.

The adult will emerge in 10-14 days. A chrysalis will become darker and then look transparent a couple of days before the Monarch butterfly is ready to hatch. Before the butterfly emerges, you're able to see the orange, black, and white colors on its wings through the pupa covering.

As a general rule, it shouldn't be black for more than three days, it's likely the Monarch inside has a bacteria or disease, or a predator has laid its eggs inside. If the chrysalis has been very dark for at least five days, and you cannot see the orange wings through the transparent casing, the Monarch butterfly inside is most likely dead, and it will then dry up. Dispose of your bad chrysalis to avoid disease spreading.

### Signs of Emergence

While it may take up to 14 days for the butterfly to finally emerge, one of the final stages is easy to identify. The chrysalis starts to become transparent, and you'll be able to see the butterfly through the surface. The transparency is an indication that you're less than 24 hours from seeing this beautiful insect emerge.

The pleats of the chrysalis will start to expand to make room for the butterfly to come out. The separation takes time, so you might be waiting up to an hour to emerge. When the butterfly finally emerges, the wings will take several hours before they are ready to fly.

### The Adult Butterfly

Adults usually emerge in mid-morning. At this point, if you are hand-rearing Monarchs this is when you will want to check back often to increase your chances of observing this incredible event. Allow the newly emerged adult plenty of time to inflate its wings and for the wings to dry before handling. This can be about three to four hours. A Monarch's first short flight soon after emergence allows them to reach



a dark and protected spot where they rest the remainder of the day unless disturbed. It is also important to remember to release your Monarch on a warm sunny day, without wind or rain, and near flowers if possible. If it is colder than 60 degrees Fahrenheit, it will often be unable to fly.

### **The Big Day!**

About a week after I had received my chrysalis, I was witness to several changes. It became much darker and by mid-morning, it had changed so much that it indeed became transparent and the Monarch's colors were showing through. Within a short time, I was watching the emergence of a Monarch.

By the early afternoon, I was viewing a fully emerged Monarch butterfly. I waited about four hours and she was ready to leave the mason jar. With about three good hours of daylight left, I felt it was okay to release her outside. This Monarch wanted out of the jar at this point. She was strong and ready to eat! I carefully removed the lid from the jar and she climbed onto my hand. I then brought her to a Butterfly Bush (*Buddleja*) that she could drink from in one of the flower gardens. Within a few minutes, she flew up toward the house and



perched on the side in a shady area. After that, she then flew away over the roof. I have to tell you this was a little bittersweet. I was glad to see her fly successfully but now I was left to wonder how she would thrive out in the world. Well, a few days later, I had the opportunity to see her again not too far from where I had let her go. She was feeding from a coneflower and I like to think she was saying thank you for my part of her process.

By the way, you may have noticed that I have been referring to my Monarch as she. I will explain below how I could tell her sex.

## How to Tell if a Monarch Butterfly is a Male or Female

Is my newly emerged Monarch a male or a female? It is simpler to differentiate between the two than you may think. The male Monarch butterfly has a black spot



*A male Monarch butterfly with black spots on his hindwings  
(Renee Hemingway photo)*

on each hind wing that is made up of specialized scales. In other butterfly species, similar spots emit pheromones to attract females, but scientists are not sure what function these spots serve for Monarch males. These black dots are an excellent



*A female Monarch butterfly lacking black spots on her hindwings*

marker for sexing purposes. The Monarch female has noticeably thicker wing veins, which give her a darker appearance. Being that these spots were lacking on my Monarch, I believe she is a female.

## What is the Average Lifespan of a Monarch Butterfly?

Each adult butterfly lives for two to six weeks, except for the migrating generations. Successful migrating Monarchs will live between six to nine months and reproduce and die in the southern U.S. in the spring. The final generation of Monarchs in a year, usually born toward the end of summer and the beginning of fall, has an important task. They will fly south for the winter, much as birds do. Then, they will overwinter and hibernate in the southern US and Mexico. Their offspring then carry on their migration north. In February or March, the Monarch emerges from hibernation and finds a mate. It then migrates north and east and finds a milkweed plant on which to lay its eggs – usually around March or April.

For this reason, individual Monarchs do not make it back to their original starting place. Flying up to 2,500 miles from the US and Canada where they breed, all the way down to the forests in central Mexico where they hibernate, the Monarch's migratory pattern is the most highly evolved of any known species of their kind.

## How Can I Help Monarchs?

As pollinators, the Monarch butterfly's migration across the continent provides a beneficial service, essential for helping many ecosystems thrive. Here are a few ways that you can help them survive. Planting milkweed is crucial to Monarch survival. It's their only host plant, allowing adults a habitat to lay their eggs and larvae to successfully develop into maturity. This includes milkweed species such as Common Milkweed (*Asclepias syriaca*), Butterfly Milkweed (*Asclepias tuberosa*), and Swamp Milkweed (*Asclepias incarnata*).

It's not all about the milkweed though. Monarchs need a variety of nectar plants, specifically fall-blooming plants, to fuel the first leg of their migration. Late summer and early fall is a peak time for Monarch activity as they prepare for their long migration south to the forests of central Mexico. It's also a great time to provide them with late-blooming flowers like goldenrod (Asteraceae), coneflower (*Echinacea*), Black-eyed Susan (*Rudbeckia hirta*), and aster (Asteraceae) to fuel their long journey.

In a perfect world, it would be wonderful if we could avoid pesticides altogether. If that's not possible, it can help to limit their use in your gardens or consider safer options for the environment. How have pesticides affected Monarchs? They have contributed to the decimation of milkweed and you now know how beneficial these plants are to these insects.

Habitat preservation is also a key factor in the global Monarch butterfly crisis. These habitats are important not only for Monarchs but for other pollinators as well. If you are unable to plant your own blooms, you can research other avenues to help Monarchs. You can do your part by finding reputable organizations that fight to



protect habitats, which can also make a difference. There surely is no shortage of advocacy groups fighting to protect the natural world. You can find one that best aligns with your point of view on this subject.

I can't wait for my milkweed to start blooming so I can have more encounters with these beautiful creatures. If you have any stories from your own experience with Monarchs and would like to share them, I would love to hear from you. Thank you for reading. §

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Maine  
Natural History  
Observatory

# HOW TO TELL APART

by Jordan Chalfant • design by Celeste Mittelhauser

## *Dumontia contorta*

Dumont's Weed

High to mid-intertidal  
on sheltered to semi-exposed coastlines



### ABUNDANCE



Common to abundant in Maine. Most prevalent in winter/spring, deteriorating in summer.

### BRANCHING



Several to many branches emerging along a short, round main axis. Rarely rebranched.

### MAIN AXIS

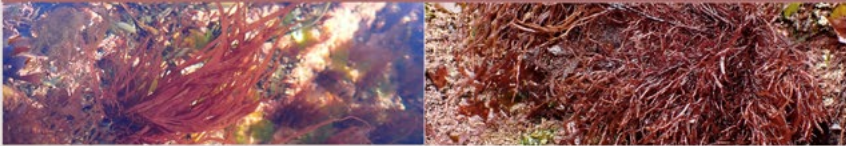


Main axis floppy and slippery, much the same texture and color as branches.

## *Devaleraea ramentacea*

Variable Branched Weed

Mid-intertidal to subtidal  
on wave exposed shores



### ABUNDANCE



Perennial, seen occasionally or locally common.

### BRANCHING



Bare, compressed, dark sticks, or with proliferations, or with long branches that may be rebranched or forked.

### MAIN AXIS



Coarse, stiff, blackish main axis with slightly rigid to floppy, lighter colored branches.



## A Look Back: Snow, Geese, and Ice

BY CHRISTOPHER M. PACKARD;

(MAINE FIELD OBSERVER, APRIL 1956, VOLUME 1 NUMBER 4)



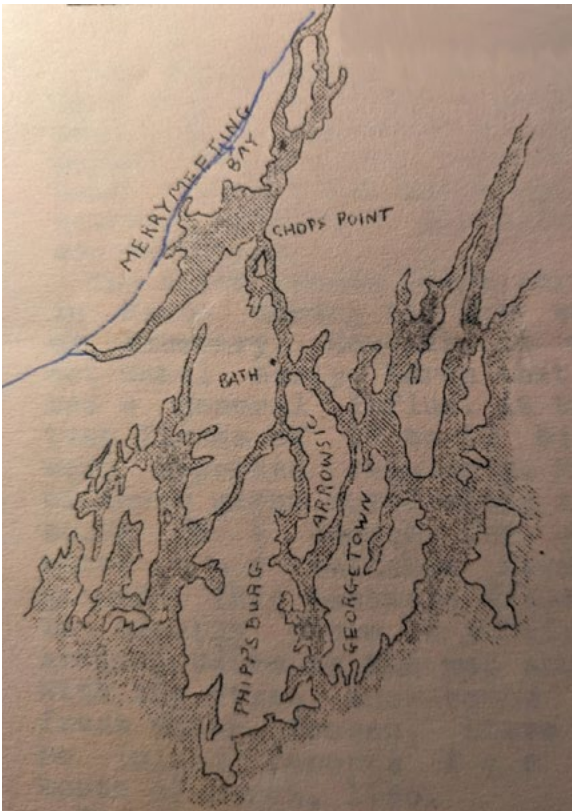
Sagadahoc County, Maine's smallest, lays claim to the State's largest concentration of Canada Geese. During the last decade personnel of the U. S. Fish. & Wildlife Service have made yearly counts using such diverse tools as canoe, motor boat, seaplane, car, and portable two-way radios. These thorough counts have shown that the population of Canada Geese is usually about 12,500, but has reached a maximum of 40,000 birds in 1954\*.

The geese usually arrive at the Bay\*\* in numbers during March, but in 1956 the bay was covered with ice, and the ice covered with snow at the end of the month. What do geese do in such a case? In some years they have resorted to fields, but this year the snow-covered fields were no more attractive than the ice-bound water. It will be especially interesting this year to see how the birds react to adverse conditions. Fortunately, the U.S. Fish & Wildlife Service has arranged the best survey of the area ever made. The Brunswick Naval Air Station is cooperating by furnishing a helicopter and bi-weekly flights over the area are planned through April. Edward J. Baker, U. S. Game Management Agent, who has made goose surveys at the Bay for several years now will be keeping close watch on the birds, and has promised to keep us in close touch with the changing picture.

The early spring goose flight this year is strictly a coastal one with a comparatively small population involved. Reports at hand indicate two patterns, an eastward dispersal and a local concentration.

\* Baker, Edward J. 1954. "Canada and Snow Geese at Merrymeeting Bay." Bulletin of the Maine Audubon Society. 10(3): 40-43.

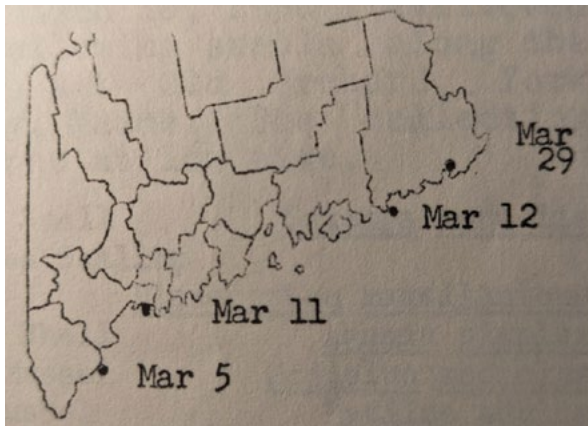
\*\* Merrymeeting Bay.



The first Canada Geese arrived in Maine during the last week of February. However, it was not until early March that we had a general influx. At this time flocks of 20 to 40 birds were reported regularly. Many of these geese moved along the coast in a search for open water and suitable feeding grounds. This eastward dispersal is clearly shown by "first" arrival dates on the map above. With the State snow-bound and fresh water frozen, there are no inland reports for the month of March, 1956.

In Sagadahoc County, the birds unable to feed at the Bay, concentrated in what open water there was along the lower part of

the Kennebec. Mr. Baker made his first helicopter flight over the area on March 26. He found that the total population at that time was 3250 geese. Most of the birds were scattered along the Kennebec and Sasanoa Rivers and in Hockomock Bay. However, at Chops Point one group of 500 was seen and on the Back River between Georgetown and Arrowsic there was a concentration of 1000. Also of interest was the presence of an estimated 5000 golden-eyes and mergansers in this same region. §



## *Notes from the Field*

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### **What Was a Hepatic Tanager Doing in Stockton Springs in December?**

BY TOM AVERSA (tom.aversa@gmail.com)

STOCKTON SPRINGS, WALDO COUNTY, 30 DECEMBER 2023

Good question. The answer is unknown but it was quite a thrill locating this unexpected rarity in a residential area bordering the Stockton Springs tidal flats on December 30, 2023. I was scouting my North Penobscot Bay CBC area when the yet unidentified bird perched high in a bare hardwood. The overcast and mist made observation and photography difficult but I shot a few bad photos and then struggled to get a better look. Fortunately it flew down to a low shrub briefly where I was able to get better views and photograph it. The location is a particular rich one, having turned up many lingering species over the last decade, so I was not that surprised to see a tanager fly in as it responded to my spishing. A tanager would have been more shocking but in recent years Western Tanager has become a nearly a regular fall and early winter vagrant. Also, I had discovered a December Scarlet Tanager no more than a few miles southeast of this site in December of 2021.

Plumage was mostly yellow with fairly prominent orange-reddish highlights in the forehead and throat with a similar but more subdued color evident on the undertail coverts. The scapular area, cheek and flanks looked fairly gray especially in comparison to the yellow underparts. Parts of the face along with the flight feathers and





greater coverts were greenish and the flight feathers and wing coverts showed yellow edging. Medium upperwing coverts had pale edging which imparted the appearance of a faint upper wing bar. The bill shape and size were very distinctive. Color was bluish-gray with a darker tip and edges, the culmen looked a bit more decurved, and the mandible was more toothed than I would have expected for the expected tanagers. Bill size appeared similar to a Summer Tanager. I ruled out Western and Summer tanagers, the more expected tanagers to appear in the winter in Maine. Hepatic Tanager was not on my radar since it had never been recorded on the East Coast so I figured that it was probably a Scarlet Tanager in an odd plumage. This didn't really work for me especially when the bird flew to a lower perch and I was able to see it in better light. It was too grayish and the red in the face should not have been present on a winter Scarlet Tanager. Still, I leaned towards that identification. Bill color and shape disturbed me greatly, however, since the metal gray bill did not match Scarlet Tanager. The prominent toothed appearance also looked wrong. I was a bit shocked when I got home and looked at a clearer image on my computer and realized that the grayish flanks and dusky cheeks could only mean Hepatic Tanager (*Piranga flava*). I checked with local experts before I posted the bird, likely a first year male, to eBird. Fortunately it has remained near feeders in the area where it has been seen by hundreds of observers.

So why did this tanager show up here? Did the nearly unprecedented December 18 so'easter which packed hurricane force winds play a role? There is always a regular increase in western vagrants as fall migration ends, particularly near the coast, but it seems like that frequency is increasing. It is proven that a few exploratory individuals can lend evolutionary advantage to an avian species, so perhaps mis-oriented individuals like this Hepatic Tanager will help bird populations adapt to our changing climate. §

## Mola Mola

JOHN DEWITT (johndewitt2200@gmail.com)

ISLE AU HAUT AREA, KNOX COUNTY, SEPTEMBER 2023



In 2022 I saw many Mola Mola, but this is one of the few I saw in 2023. It is also one of the smaller ones, I estimate about four feet long and weighing 300-400 lbs. You can make good eye contact with these fish.

It's interesting that this one was on the surface a cool cloudy day, as opposed to most being seen on bright sunny days. When I first came up to it I thought it might be sick or injured, but then it started acting normal. They can be difficult to photograph due to sky/boat reflections, but the dark cloudy day helped with that. It didn't help with color, they have a little more color in good light and don't look all gray. It was about 0.3 miles south of Eastern Ear, on top of about 70 feet of water. §



## Autumn 2023 Seasonal Summary of Schoodic Institute's Schoodic Point Sea Watch

BY SETH BENZ (sbenz@schoodicinstitute.org)

SCHOODIC POINT, HANCOCK COUNTY, AUTUMN 2023



*Northern Gannet (Logan Parker photo)*

Sea Watch at Schoodic Point is an autumn waterbird migration monitoring project conducted by Schoodic Institute at Acadia National Park. 2023 marked the 8th consecutive year of this autumn daily monitoring effort. One or more observers use binoculars and a spotting scope to identify and tally migrating birds traveling from east to west across the seascape looking southwestward from Schoodic Point. Migrating birds are those exhibiting direct continuous flight through the length of the seascape view.

The 2023 autumn effort tallied 78,447 individual migrant waterbirds of 58 different species during 92 observation days. The official count took place from September 5 through December 22. Observers amassed 327 hours of effort resulting in an average count of 246 birds per hour. The average daily count effort was about 3.75 hours.

The bulk of this season's observation effort was completed by Nathan Dubrow a recent graduate of College of the Atlantic, with minimal assistance from Seth Benz, director of bird ecology at Schoodic Institute. Daily observation periods ranged from a minimum of 30 minutes to a maximum single day observation period of 8 hours. A typical day of observation commenced just before sunrise and continued for a period of 3 to 5 hours. The cumulative total of observation minutes was 19,645. There were 3 days when conditions (inclement weather and/or thick fog) or observer absence prevented the count from taking place at all.

Overall, the 2023 cumulative migration count (78,447) was well above the project's yearly average (58,816). Additionally, the total days (92) and hours (327)



*Razorbill, Black-legged Kittiwake (Logan Parker photos)*

of coverage were both well above the long-term seasonal averages of 68 days and 266 hours, respectively. A more standardized metric for comparing analysis from year to year is birds per hour (bph). The project's 8-year average bph is 191. The 2023 bph was 246, second only to Season 2018 which registered 312 birds per hour. §

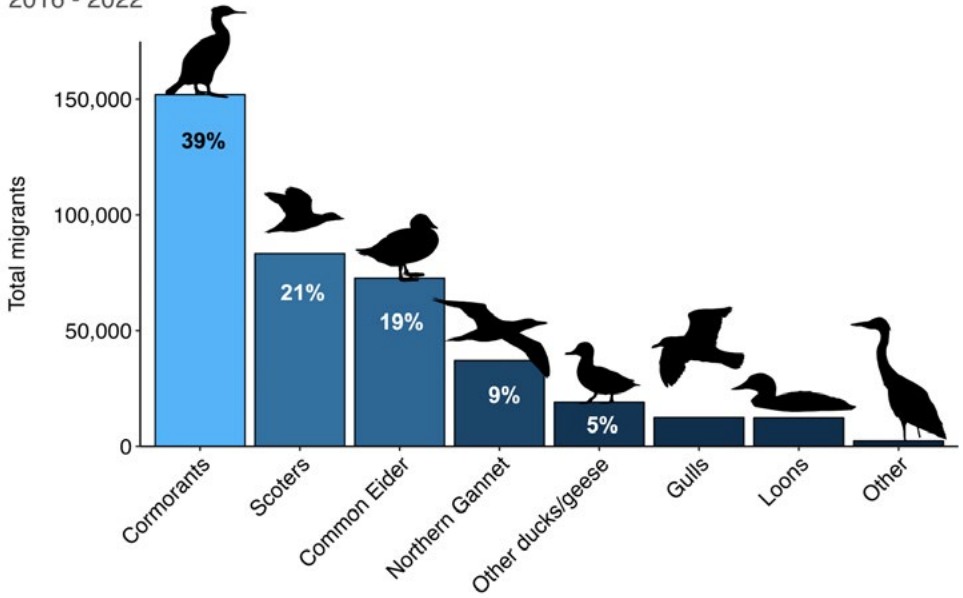
### 2023 Sea Watch Select Species Seasonal Highlights

Species	First Date	Last Date	Peak Date	Peak Number	Season Total
Double-crested Cormorant	Sept. 6	Dec. 21	Oct. 23	5,386	28,637
Great Cormorant	Sept. 17	Dec. 21	Oct. 2	56	841
Common Eider	Sept. 17	Dec. 22	Oct. 17	1,488	11,622
Northern Gannet	Sept. 5	Dec. 12	Nov. 7	634	4,187
Common Loon	Sept. 5	Dec. 22	Oct. 23	290	2,593
Red-throated Loon	Sept. 20	Dec. 14	Dec. 2	434	1,713
Surf Scoter	Sept. 6	Dec. 21	Sept. 24	1,337	9,492
Black Scoter	Sept. 23	Dec. 22	Nov. 7	1,046	3,354
White-winged Scoter	Sept. 17	Dec. 22	Nov. 7	158	1,305
Red-breasted Merganser	Sept. 18	Dec. 22	Nov. 7	369	2,543
Long-tailed Duck	Oct. 15	Dec. 22	Nov. 9	268	3,789
American Black Duck	Sept. 17	Dec. 19	Nov. 9	35	374
Ring-billed Gull	Sept. 17	Dec. 21	Dec. 3	503	1,288
Black-legged Kittiwake	Sept. 20	Dec. 18	Dec. 11	326	681
Black Guillemot	Sept. 22	Dec. 21	Dec. 13	153	767
Razorbill	Sept. 23	Dec. 18	Dec. 11	44	2 89



### Seasonal Waterbird Flight Composition

2016 - 2022



### SeaWatch at Schoodic Point Summaries by Year

Year	Total Birds	Days	Hours	Birds per Hour
2016	50,295	67	260	194
2017	34,058	64	268	127
2018	104,647	71	336	312
2019	75,961	70	304	250
2020	53,116	72	275	193
2021	36,825	81	235	147
2022	21,809	50	186	117
2023	78,447	92	327	246

## As the Vernal Pool Turns

BY LEIGH MACMILLEN HAYES (lmachayes@gmail.com)

BRIDGTON, CUMBERLAND COUNTY, MAY-SEPTEMBER 2023



In any given year,  
I've said good-bye  
to you,  
my dear vernal pool  
in late May  
or early June.

But this year  
of Twenty-twenty-three  
has been like no other  
as you've retained water  
beyond your ephemeral season.



When upon July 14  
I peered into  
your shallow depth,  
I was greeted  
with frog legs  
growing upon tadpole bodies,  
a sight not witnessed  
in your waters  
ever before.



In years past  
miniature amphibians  
had to mature quickly  
or become scavenged tidbits  
supplying energy  
to insects and birds,  
but this year,  
the Wood Frogs  
and Spotted Salamanders  
who share birthrights  
of your waters  
took their time  
to metamorph.

As I stood quietly  
beside you,  
you invited an American Robin  
to land on the opposite shore  
and I could not believe  
my good fortune  
to watch its behavior.

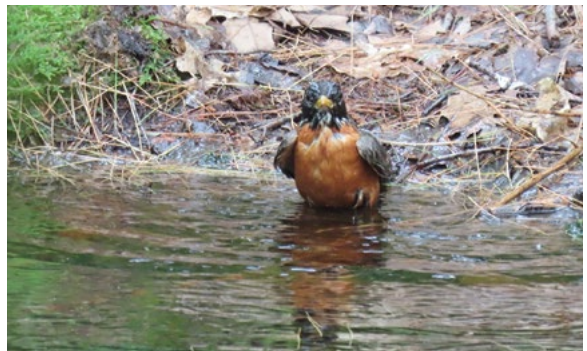


Much to my amazement,  
and despite my presence,  
for no matter how still  
I tried to be  
I still made noise,  
the Robin  
splashed and splashed  
in frantic birdbath form.



It paused  
and looked about . . .

Then jumped in again  
for a final rinse  
before taking time  
to preen.



Finally cleansed,  
the bird posed  
upon a moss carpet  
and then  
we both took our leave  
fully sated from your offerings  
of that day.

When next I visited you  
on August 9,  
wonder accompanied  
my approach  
and I knew  
sudden movements  
and resulting ripples  
meant I would not be  
disappointed.





Below your surface,  
I spied a live frog,  
its hind legs formed  
and front feet developing.

And there was another,  
and another,  
and more legs,  
and sometimes even  
the tiny suction-cuppy toes  
and my heart was full again.



I last made my way  
down the cow path  
to the trail  
leading to you  
on August 18  
and again  
the amount of water  
you held in your grip  
far exceeded  
my expectations,  
but other than  
Mosquitoes,  
all was quiet.



And then today dawned,  
and I felt compelled  
to pay you a visit again.  
On the way  
I slowed my brain  
by intentionally stepping  
along the labyrinth path  
I created a few years ago.



And then . . . and then . . .  
as I approached you,  
my dear pool,  
a pile of Black Bear scat,  
full of acorn and apple pieces  
from a neighborhood forage,  
sat smack dab  
in the middle of the trail.

And so it was  
that as I reached you,  
surprise again overcame me,  
for though you are shrinking  
to your traditional  
early June size,  
you still exist  
on this day, September 3.

Small Water Striders skated  
across your surface,  
sometimes approaching others  
who quickly  
escaped any chance  
for an embrace.

As has been  
my experience  
for the last month  
you offered no evidence  
of Wood Frogs or Spotted Salamanders  
and I trust many  
hopped or crawled out  
as is their manner.  
Green Frogs, however,  
squealed to announce  
their presence  
before diving under  
the leafy bottom you offer,  
which makes a perfect hideout.  
When one frog resurfaced,  
we carried on a starring contest,  
until my attention  
was drawn away.

Ten feet from  
where I stood  
American Goldfinches  
poked the ground,  
foraging in the duff.





Then one took a bath,  
and suddenly it  
occurred to me  
that this was  
the third time this summer  
I've had the honor  
of watching birds  
make use of the watery offering  
your pool provides,  
even as it is now  
a not-so-vernal puddle.

Before I finally  
pulled myself  
away from you,  
I offered great thanks  
for all the lessons  
of life and love and even loss  
that you have  
taught me all these years. §



## 2023 Cadillac Mountain Autumn Hawk Watch Summary

BY SETH BENZ AND ANGI KING JOHNSTON (sbenz@schoodicinstitute.org)

BAR HARBOR, HANCOCK COUNTY, AUGUST 21 - NOVEMBER 6, 2023

2023 marked the 29th consecutive year of the Cadillac Mountain Hawk Watch in Acadia National Park. The site is the highest point on the immediate eastern seaboard and one of the longest running migration monitoring sites in the northeast. Established as a ranger-led interpretive program in 1995, the count has evolved into a collaboration between the Visitor Experience and Education (VE&E) division of Acadia National Park, Schoodic Institute's Bird Ecology Program, Friends of Acadia's (FOA) raptor intern sponsorship, and data management services of the Hawk Migration Association of North America (HMANA). All data is accessible at <https://hawkcount.org/cadillac>.



*Broad-winged Hawk (Logan Parker photo)*

This season's monitoring effort was conducted from August 21 to November 6. Angi King Johnston served as the lead volunteer counter with ample support from a dedicated volunteer crew that included Jim and Kathy Zeman, Chris and Joe Ferrara, Holly and Monty Evans, Anna Durand, and photographer Sandra Mitchell, Acadia National Park VE&E rangers, Greg Lee and Julia Devalk, and FOA raptor intern, Logan Witt. This stellar crew amassed a seasonal observation effort of 235.75 hours over 58 days of coverage. With multiple staff participating on the more promising flight days of the season, the total volunteer and ranger contribution to overall coverage totaled 645.25 hours.

A total of 3,195 migratory raptors were observed resulting in an average of 14 raptors per hour. Both these numbers register above historical averages of 2,867 raptors and 12 hawks per hour, respectively. This season's total was driven by an above average number of Broad-winged Hawks, 1271 (average 628); and a new record number of Turkey Vultures, 349 birds (average 80). Conversely, American Kestrel (AMKE) numbers were the second lowest in history with just 282 observations. The lowest AMKE count of 262 occurred in 2013 while the highest count of 1,348 was recorded in 2001. Other raptors falling below seasonal average includes Osprey, 119 (average 148); Sharp-shinned Hawk, 707 (average 995); Cooper's Hawk, tied lowest count of 8, (average 26); and, American Goshawk, 1 (average 8). All other raptors reached their respective historical averages. Special highlights include a Golden Eagle observed in the late afternoon of October 18, the first sighting since 2016, and a season high daily count of 1,382 raptors on September 21, of which 1,137 were Broad-winged Hawks.

Throughout the season the weather was the most notable of factors. Observ-

ers experienced daily extended periods of fog through most of October, with warm temperatures near 70 degrees Fahrenheit as late as October 28. The total number of count days were adversely impacted by 2 remnant hurricanes, Lee and Phillippe, which necessitated securing the site and briefly suspending operations.

The Cadillac Mountain Hawk Watch site is powered by amazing volunteer dedication. Many thanks are due to the regular crew as well as to relative newcomers Bob Duchesne (videography) and Sandra Mitchell (raptor photography). Thanks, too, to the determined cadre of hawk watching visitors - too numerous to name - who are always willing to help with spotting. With this volunteer power, and ongoing interest, the Cadillac Mountain Hawk Watch in Acadia National Park will continue to collect data for park science and provide awe-inspiring encounters with raptor migration.

With the 30th season just ahead, and regional species trends generally understood and ongoing, Schoodic Institute’s Bird Ecology Program will embark upon a deeper dive into hawk migration data analysis. We look forward to correlating weather metadata (temperature and wind conditions) with hawk flight production and investigating change in species migratory timing among other topics. §

### 2023 Cadillac Mountain Hawk Watch Species Season Total Compared to Historical Averages

Species	2023 Total	Historical Average	Comparison Status
Turkey Vulture	349	80	4 X Above Average (4 X ↑)
Osprey	119	148	Below Average ↓
Bald Eagle	132	50	2 X ↑
Northern Harrier	110	101	↑
Sharp-shinned Hawk	707	995	↓
Cooper’s Hawk	8	26	↓
American Goshawk	1	8	↓
Red-shouldered Hawk	2	1	↓
Broad-winged Hawk	1271	628	2 X ↑
Red-tailed Hawk	38	57	↓
Rough-legged Hawk	0	0.4	↔ (Relatively even)
Golden Eagle	1	0.3	↔
American Kestrel	282	587	2 X ↓
Merlin	59	63	↓
Peregrine Falcon	18	20	↔
Unidentified Raptor	98	102	↔



## Snowy Nature

BY ISABELLA SACHLIKIDIS

SACO, YORK COUNTY, 27 FEBRUARY 2024



*Drawing by Isabella Sachlikidis (age 6). Imagined 27 February 2024 after visiting her Grandmother who lives near Ferry Beach State Park in Saco, Maine in early February. While Isabella was born in Maine, she has lived her whole life in the Caribbean. She loves nature, is fascinated by 'green needle trees', goes wild for squirrels, and someday hopes to see a real live raccoon.*

# Purple Sandpiper

BY KIRK GENTALEN

ROCKLAND BREAKWATER, KNOX COUNTY, 3 FEBRUARY 2024





## Tuberous Structures in *Utricularia inflata*

BY DEBBIE BRODERICK (debbie@mixmox.com)

LIMERICK, YORK COUNTY, 2022



*Utricularia inflata* specimen showing asexual reproductive structures.

*Utricularia inflata* (Swollen Bladderwort) was found flowering in a secluded cove on Lake Arrowhead, York county in October 2021 (The Observer 2022, Issue 2), and was subsequently found to be ubiquitous as floating foliage throughout the lake. My husband and I, along with field experts in the region, began working on ways to describe the useful field characteristics that would help other lake stewards tell the non-flowering vegetation apart from our native bladderworts (The Observer 2023, Issue 1).

Laurie Callahan of YCIASP (York County Invasive Aquatic Species Project) recently shared a few articles with me (Scholl 2007 & Rice 2011) that described asexual reproductive structures in *U. inflata*. I recalled having seen something similar in the field in the past, and was prompted to look back through my folder of *U. inflata* photographs. I was able to locate two instances in which I'd recorded the tuber-like reproductive structures described in the literature (Reinert 1962, Scholl 2007, and Rice 2011). Though the diagrams and sketches of *U. inflata* in Crowe &

Hellquist (2006), which I'd consulted in the past, had included these reproductive structures, I had been focusing so single-mindedly on the common presentation of its leaves, stems and bladders, that I'd completely overlooked this feature of the plant until now. At the time of my field observation, I had mistaken the structures to be adventitious roots.



*Tuber-like protuberances at the tips of thread-like stolons.*

The two occasions on which I encountered *U. inflata* bearing these thread-like structures terminating in small, starchy protuberances in Lake Arrowhead were a few months apart - one at the height of summer (July 18, 2022), and one in early fall (September 25, 2022). At both these times, Lake Arrowhead water levels were at, or above, normal and the plants I found were floating freely in the

water column - I had scooped them up whilst in my kayak. The literature suggests however, that the development of hair-like stolons might be initiated by low water conditions, and that the tuberous tips develop when the plant becomes embedded in sediments (Reinert & Godfrey 1962). Neither of my specimens were found under these conditions - they were not lodged in mud, nor had our water levels recently dropped below normal.

From what I have observed, it seems that there might therefore be other stress or environmental factors (favorable or unfavorable) other than low water, that initiate the production of stolons and tubers. I certainly aim to continue looking for more such specimens in the coming season. §

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## Red-throated Loon

BY LEWIS HOLMES (lewisbholmes@gmail.com)

YARMOUTH, CUMBERLAND COUNTY, 27 FEBRUARY 2024



*Red-throated Loon*

Arriving at my favorite winter birding spot, I climbed out of my car and gathered my binoculars and spotting scope. The morning was calm and clear with temperatures in the low 20s, so still that I could hear the calls of the Common Eider that were densely packed in the channel. Rain and ice have eroded the trail to the beach and repeated winter storms have torn out the ramp and left only rough slick rocks to traverse. It was a slack low tide, that brief time when the tide is at its lowest point and the tidal currents have ceased. The beach was smooth after the scouring of last night's high tide and a light frost sparkled on the damp sand. The first rays of the rising sun were reflecting off the water and onto the bridge supports, somehow making crumbling concrete attractive.



*Common Loon*

ing of last night's high tide and a light frost sparkled on the damp sand. The first rays of the rising sun were reflecting off the water and onto the bridge supports, somehow making crumbling concrete attractive.

I paused to scan the water for initial impressions and bird sightings. Looking



*Herring Gull*

under the bridge and across the open bay I saw several common loons, notable for their large size, dark bodies, and thick long bills. Common Loons are present almost everywhere in salt water this time of year; I love to watch them cruise the water and sink effortlessly below the surface when hunting for prey. As always, I gave each loon a careful look to see if it might be a Red-throated Loon, as they are generally less common here and therefore hold extra appeal when found. The smaller Red-throated Loons are slimmer and more sinuous with light gray coloring that blends effortlessly with winter waters. The eponymous breeding plumage does not appear until late spring during migration. There were numerous loons scattered about today, so far all Common. A few of the loons had plumage that was starting to change from the dark gray of winter to the black of breeding season, making them stand out even more clearly on the calm water reflecting the brightening sky above.

The beach here is ephemeral, raised high during low tide but

then quickly reclaimed by the returning water. An enjoyable meditation exercise is to stand at the end of the beach as the tide returns, watching the overlapping small waves from each side of the narrow beach steadily cover more sand, forcing the observer to make a slow retreat. One has to be careful to watch the path behind, as I have been cut off more than once as the tide covers a low point midway down the beach. I walked along the sand on the crest of the beach where the sand had been rippled by the action of waves and currents of the last high tide. At the end of the spit I stopped, set up my spotting scope, and started to look for birds on the water and sandbars. Almost immediately a Herring Gull pulled a mussel from the muddy tidal flats and carried it to an open area behind

me. The gull repeatedly lifted up several feet into the air and dropped the mussel onto a rock to crack it open, the early light highlighting the bird's pure white feathers against the dark background.

I heard the whistles of an eagle and looked about in vain to find it. The distinctive call is rather weak and does not do justice to the size and grandeur of the eagle. I could localize the sound to the wood line across the mudflats but the sun was rising directly behind the area and it was impossible to make out details. The eagle was likely perched out of sight for if it were flying then the ducks and gulls would launch en masse from the water, sandbars, and mudflats to avoid the risk of being caught. There is a long, curved sandbar that appears at low tide in the middle of the water and creates two channels. When the tide is changing, the current flows around both sides of the sandbar and any birds will slowly move with the tide. Today there were hundreds of seabirds that seemed to favor the channel on the far side of the low sandbar and the water just along the near side. Nu-

merous gulls covered the sandbar and a hunting pack of Red-breasted Mergansers surfaced to the right of the long sandbar. The birds were energized and dove repeatedly, presumably in pursuit of a school of small fish.

While it was only late February and the air and water remained quite cold, dozens of Eiders, Goldeneyes, and Buffleheads were displaying and calling. I could hear the mellow cooing from the male Eiders back in the parking lot.



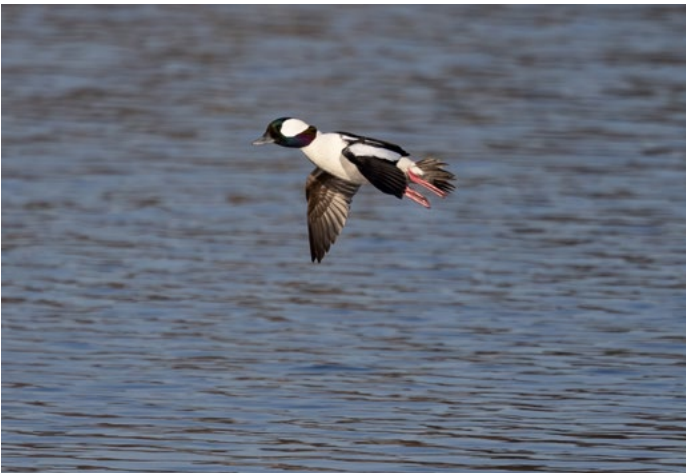
*Red-breasted Merganser*





*Common Eider*

Closer now, the soft sounds filled the air as I watched the striking males with their black and white plumage stretch their necks upwards and back, rearing up out of the water enough to show their black bellies. The male Goldeneyes tossed their heads until they were almost touching their back, their bills pointing toward the sky while given a brief peent call. I heard the calls off and on throughout my stay, but only a few times did I actually see the males displaying. The male Buffle-



*Bufflehead*

heads were activated when in small groups, chasing each other, making short flights to skid across the surface of the water with their breasts puffed out. This morning, pairs of Buffleheads flew past close enough to let me see clearly the shiny iridescence of the male's head, the flashing



*Dead Red-throated Loon*

white patches on the dark wings, and the incongruous trailing pink legs and feet.

I noticed something white floating on the calm water. At first I assumed it was a buoy that had broken free from its mooring. I looked more closely through binoculars and saw it was a dead bird. It was hard to make out

details beyond the brilliant white of the belly, even size was challenging without the context of another bird. The tidal current was starting to move to the right and the bird slowly floated past and rotated to reveal more details. It was lying on its left side with the head pointing to the right and facing me. I could see a white throat and face, the visible nape and crown were gray, the eye was closed, and the bill was partially underwater. The white on the face reaching above the eye and the light gray on the top of the head revealed that it was a Red-throated Loon. It was a somber sight. I wondered if it was flying across the bridge this morning and hit the power lines, something that others have witnessed several seabird species do in the past. I was transfixed by the loon, by its quiet repose that resembled slumber more than death. I studied the smooth plumage along the belly and wings, the large foot extended back as if in a stretch. The slender bill held at an upward angle is a key field mark when the bird is sitting on the water. I studied the bill that now tipped down under the smooth water, no longer in use, no longer leading the way as the loon leapt into the air in a graceful dive underwater to hunt.

I picked up my scope and turned back toward the bridge. As I walked along three Buffleheads stopped their displays and ran along the water until they were airborne. A pair of Long-tailed Ducks opened their wings and dove beneath the water. Another flock of Eiders was drifting off to my right and I watched with my naked eye the displaying and cooing males and the indifferent females. I paused once more at the base of the beach, raising my binoculars to pick out the dead loon passing now around the end of the beach. At some point the gulls will notice the body and gather to feed. The swarming gulls will likely attract the attention of the eagle that will swoop down and carry it off to the sandbar or the dead branch of a tall pine. For now, the loon was intact and at rest, flowing with the incoming tide toward the open water. §

## Male Polyphemus Moth

BY RENEE HEMINGWAY (reenehemi0113@gmail.com)

NORWAY, OXFORD COUNTY, 4 JULY 2023



I go out every morning before daybreak, during peak silk moth season, to relocate all the large silk moths, sphinx moths and 'rarer' moths to a safe area. My moth documenting area is located near my bird feeders and its certain doom if I don't. I also keep lights on 1 night and 2 nights off to enable documentation and recording but allowing them to mate and thrive normally without distraction as well. §



*Renee Hemingway is a naturalist, (self taught) entomologist, environmentalist, nature lover, an affiliate with the Maine Entomological Society and has been writing her own fieldguide for a decade.*

## Twenty Years of Observing Bluebirds Who Now Winter in Maine

BY JANET GALLE (janetgalle@gmail.com)

BOWDOINHAM, SAGadahoc COUNTY, 2002-2024



*Bluebirds by Anita Graziane (Watercolor on Arches watercolor cold pressed paper)*

I can't remember when I saw my first Eastern Bluebird (*Sialia sialis*) or how old I was, but I do know that in sixth grade, I had a teacher who taught us about birds. She showed colorful pictures of orioles, Bobolinks, Bluebirds, Scarlet Tanagers. Growing up surrounded by fields of mono-culture soybeans in Indiana, I never saw any of those, only the occasional so-called wild canaries. Bluebirds remained pictures in books.

I moved to Maine in 1963, and thanks to a few wonderful mentors, I discovered those sixth grade birds again in abundance. I joined an Audubon Society. From a

Bluebird-box-trail-group I got monthly updates on what to do to attract them.

In open fields near the ocean we put up boxes and were delighted with Tree Swallows who inhabited them all. In 1985 we moved to a 200 acre forest-field in Bowdoinham. Because part of this land is an organic animal farm, the fields are grazed but never have pesticides applied, and fertilizer comes from the animals themselves. Insects abound.

Again, we put up bird boxes, everywhere.

And over the years, along with Bluebirds, change has come. In 2002 the first pair nested successfully. Eighteen years later, I note in my field journal: March 28, three Bluebirds, singing near the chicken coop. The rest of that spring two Bluebirds with nesting material are inspecting one of our boxes. By July 12, 2020, a family had fledged near the pond.

January 24, 2021 eight Bluebirds were seen daily in one of the northern pastures; February 2021, ten Bluebirds; March 5 a male and female Bluebird appear at a feeder. All summer long we had Bluebirds. November 3, in the trees, daily and still singing.

Bluebirds now were part of our lives. In 2022 they never left. July 22 a pair brought their four young ones to the feeder and from that day on, Bluebirds have been as regular as Blue Jays, year round. December 19, 2022 seven Bluebirds daily.

And by the first week of February, 2023 there were always at least six at the feeder. In August, family groups arrived with five young Bluebirds every day. These family groups remained twelve months of the year. December 19 a snow storm left us without power, but six Bluebirds persevered.

One summer's day, while I was sitting on the ground in the garden, a male Bluebird fluttered close by and then landed just feet away, proceeding to hunt among the detritus for insects, ignoring me. It is hard to explain the extreme beauty of a Bluebird up close; harder still, to explain the gentleness of this bird that I have come to know over the past twenty years.

Today on our farm, they are constantly visible in fields, hunting from trees, along fence lines, exhibiting behaviors that made them a beloved bird of old farmsteads. Many of the bird boxes now yield multiple broods.

Peter Vickery's *Birds of Maine* documents sightings over decades most of which are summer or late fall reports. He calls Eastern Bluebirds "a cheerful presence in most of Maine," yet winter accounts were rarer. Until now. The state Christmas Bird Count shows as many as 133 Eastern Bluebirds in the Greater Portland count December 16, 2023. Over the past winter of 2023, friends in Brunswick reported a small flock wintering tucked into a Christmas wreath at night.

Today, it is February 12, 2024 and I can't keep the mealworm feeders full. There are ten Eastern Bluebirds at one time. EBird asks for photos to document the count.

What is to be learned from these years of Bluebird watching? Though some will surely disagree, I find them to be the most gentle of birds. Unlike many of the smaller sparrows or larger jays, they are peaceful together, good with each other,

sharing perches and even small mealworm cups without a fight.

An old accounting of Bluebirds' sociability comes from Arthur Bent as he describes their behavior "keeping together like a big family, one bird following another when it flies. They are quietly musical... ." It is this musicality that attracts me even in winter now, when they call to each other and then gather around the warmth of the bird waterer.

I walk outside in the blowing snow to replenish mealworm feeders, and before I am back in the house, the Bluebirds know what I have brought; they recognize me. They have all returned to the feeders. I imagine they would eat from my hand, though I do not want to offer that. I simply want to marvel at their determination to winter in Maine. §

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*Janet wrote a monthly "Country Ways" column for The Times Record in Brunswick for over 20 years, has two books published, one titled Two Farms: Essays on a Maine Country Life, and the other co-authored, Exploring Ecology published by National Science Teachers Association. Janet is a retired high school English teacher.*

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