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Thank you to all the wonderful contributors who helped make this another amazing issue. We welcome your content anytime. Send any articles, poems, photos, news to Newsletter Editor, John Miller at interpretivenaturalist@gmail.com.

We hope you enjoy this issue and give feedback.
From the Trail

Well, as I write this, we are a few days shy of the official start of Fall, but the mornings are a bit cooler already and a few leaves are starting to turn. I always liked watching the changing colors of fall when I was a child. I grew up in Iowa, surrounded by oak trees and a few maples—we had a wonderful maple tree in our front yard and it would turn the most beautiful colors of orange and red. I loved it.

I hope that the Fall season will be good for you all. I know we keep hearing this over and over, but…it has been a long year for all of us. I know that many of us have not had a typical year, workwise, and many of us are stressed about the future. I am trying to stay positive and hopeful for the future of interpretation, especially at our smaller sites. I have seen several reports of sites that may have to close permanently and that upsets me, as I am sure it does many of you. There is a bit of hope, however—I have also seen many reports of the public wanting to visit parks and natural areas now more than ever. The public understands how important our natural areas are. I just hope that the people funding our sites are realizing it, too. The approval and signing of the Great American Outdoors Act a few weeks ago is a great step in the right direction, and I hope that it shows the non-Federal areas that “nature” and by extension “Interpretation” is critically important for all of us.

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We need your help. Contact John Miller at interpretivenaturalist@gmail.com if you would like to be a representative for your region!

Many of us are normally getting ready for the National Conference that is held every fall. As with many things this year, it has changed and will be a virtual conference, held from November 10th through the 13th. I am pretty excited about this opportunity for this year,
because I hope that it will allow some of us who may not normally have been able to attend the Conference in person be able to attend after all this year. (Just this week I attended a virtual Women and Leadership workshop that I probably wouldn’t have been able to attend if it had been in person, and I am truly grateful for that opportunity.) There will still be many of the things you are used to seeing at the National Conference, including Keynote Speakers, concurrent sessions, the Resource Expo, a silent auction, and a virtual Awards Ceremony. In addition, because it is virtual, the Keynote Speakers and concurrent sessions will all be available to access until the end of the year, so you can see them all!

We will still be having an IN Section meeting, also. It will be held on Monday November 9th at a time to be determined (sometime between 1 pm and 8 pm EST)—keep checking the NAI website for updates. It will also be virtual and will allow us to join together wherever we are. We are also planning to hand out our Thomas Say Awards during this time, so come and celebrate our Award Winners. Rumor has it that the Section meetings will be available to all members, whether you are attending the entire workshop or not, and there should be more information about that coming out soon.

Another thing that happens in the Fall is our NAI Elections, which are open right now. Although the IN Section does not have any positions up for election this year, we will have a need for candidates next year for the positions of Director, Deputy Director, and Secretary/Treasurer. If you are interested in any of these positions or just want some more information about what they do, contact me or our other current officers at any time. I know it is early to think about next year, but the time for nominations will be upon us before we know it.

We also have a great slate of candidates for our National Board of Directors and for many of our Regions—check out www.interpnet.com for more information on the candidates and to see if your Region is holding an election this year. You should have already received a ballot for the National Board, but if not, contact me and I will try to help. Remember---VOTE!

Tell Your Story

Interpreters come from all walks of life, and we take all sorts of unique paths to this career. Our “Faces of NAI” video series will highlight the diversity of backgrounds, career paths, and interests represented in the field of interpretation. To see yourself featured in this series, which will be shared on social media and the NAI website, please send your video according to the following parameters to pcaputo@interpnet.com.

Duration: 2 minutes
Format: Digital video file such as .WMV, .MOV, and .MP4 (Phone cameras work well, but please shoot horizontally, not vertically—and be wary of the effects of wind on audio!)

Please include the following:

- Your name, title, and place of work
- How you got into interpretation
- What the field has meant to you
- Anything else that makes your story unique!
**Volunteer and join us for the 2020 NAI virtual conference**

23 volunteer spots left! Some of the work can be completed prior to the start of the conference, and some are during. Needs include closed captioning transcription, session and evening hosts, data entry, and tech support. All volunteers who complete their 6 hours of service will receive a discounted volunteer registration price. Sign up here to volunteer: [https://nai.offero.com/](https://nai.offero.com/)

For more conference information, go to: [https://nai2020.pathable.co](https://nai2020.pathable.co)

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**NAI Shining Star Award**

Have you witnessed a fellow interpreter going above and beyond the call of duty? We are looking to recognize NAI members with these qualities on a monthly basis. The NAI Shining Star Award will highlight the amazing interpretive work being done by members, like you, all across NAI. This award is meant to highlight winners' efforts to the NAI interpretive community as well as the winners' supervisors and coworkers.

To nominate someone for the NAI Shining Star Award email NAI Member Liaison Heather Manier at hmanier@interpnet.com with the following information:

- Contact information of the nominee (name, title, site, work address, work email, and work phone).
- Example(s) of how the nominee went above and beyond their routine duties.
- Example(s) of how the nominee's action made a positive impact on visitors, resources, or NAI.

These awards are independent of the NAI Professional Awards.

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**Mission, Vision, and Core Values**

**Telling Everyone’s Story - NAI’s Commitment to Diversity**

**Diversity, Equity, and Inclusion Resources**

**Elevating Indigenous Voices In Interpretation**

**Webinar** September 30th 2 pm Eastern/11 am Pacific  
Registration Required

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**NAI National Virtual Conference**

**Webinar** November 10-13, 2020  
Registration Required by October 25th
Christian Cooper became one of the nation’s most famous bird watchers when a video he filmed of his confrontation with a white woman in Central Park went viral. After Mr. Cooper asked her to leash her dog, she had warned him that she would falsely tell a 911 operator that “an African-American man is threatening my life.” But before that Memorial Day encounter, Mr. Cooper was well-known in a different realm: as a pioneering comic book writer. Now, Mr. Cooper is using his experience in Central Park as the inspiration for a graphic novel, “It’s a Bird,” published by DC Comics.

In the graphic novel, which is digital only, he connects racism’s daily humiliations and deadly police brutality. The same day that he faced the woman, Amy Cooper — who is not related to Mr. Cooper — George Floyd would die in Minneapolis under a police officer’s knee. The slim, 10-page story is impressionistic, without a real plot. It is the first in a series called “Represent!” that features works of writers “traditionally underrepresented in the mainstream comic book medium,” including people of color or those who are LGBTQ, Marie Javins, an executive editor at DC, said in a statement. It is available online at several digital book and comic book retailers.

The main character of “It’s a Bird” is a teenage birder named Jules, who is Black. When Jules tries to peer through his binoculars at birds, he instead sees the faces of Black people who have been killed by the police. After a white man shoos Jules off his lawn, the illustrator, Alitha E. Martinez, has drawn Jules envisioning Mr. Floyd’s face in place of a warbler in a tree. In later pages, the teenager confronts a white woman in the park with her dog off leash — here the woman is named Beth and is depicted as heavyset, though Ms. Cooper is not. When Jules faces her, he is backed by the images of several Black people killed in interactions with police. When he turns his back on her, he sees them winged and flying free.

In an interview, Mr. Cooper said the graphic novel “shouldn’t be looked at as any one experience, because it’s not. It’s drawn from a whole bunch of experiences and woven together from that — my own and the ones we keep hearing from news reports.” “What happened to me is minor compared to the fatal consequences for George Floyd later that same day, but it all comes from the same place of racial bias,” he added. “I am not trying to equate these things. What I am trying to say is: ‘See the pattern.’” Mr. Cooper said the graphic novel was deliberately not an exact recounting of his May 25 interaction with Ms. Cooper. “I think that is the beauty of comics, it lets you reach that place visually and viscerally,” he said. “And that’s what this comic is meant to do: Take all these real things that are out there and, by treating them in a magical realist way, get to the heart of the matter.”
Animals Influencing Politics
By John Miller

With so much interest in the elections this fall, we might not realize that several animals have played an important role in shaping our political landscape. Here is a look at these animals and some of their colorful contributions to US history.

The American Bald Eagle was selected to represent the focal point of US National Symbol which was adopted by Congress on 20, 1782. The eagle was chosen as a symbol of strength; especially since Roman legions used it as their standard. The eagle is NOT the US National Bird, nor is there any real evidence that Benjamin Franklin lobbied for the Wild Turkey to be the US Symbol. Franklin, however, did write to his daughter that the eagle was “a bird of bad moral character.”

The image of Rattlesnakes was used leading up to the American Revolution to show both defiance and unity. This was especially poignant since the British were unfamiliar with this fearsome and unpredictable serpent. The two most common political uses of the rattlesnake were the Benjamin Franklin cartoon with the phrase “Join or Die” and the Gadsden Flag with the phrase “Don’t Tread on Me”. Credited by Benjamin Franklin, his 1754 ‘Join or Die’ cartoon depicted a broken rattlesnake representing the American Colonies. It was intended to rally the colonies to fight against the French and their allies and to convince Great Britain to support a unified colonial government. Later in 1775 Franklin would use the following analogy to describe the colonies ready to defend their right to separate from King George’s rule: “[The rattle-snake’s] eye excelled in brightness, that of any other animal, and that she has no eye-lids. She may therefore be esteemed an emblem of vigilance. She never begins an attack, nor, when once engaged, ever surrenders: She is therefore an emblem of magnanimity and true courage. As if anxious to prevent all pretensions of quarrelling with her, the weapons with which nature has furnished her, she conceals in the roof of her mouth, so that, to those who are unacquainted with her, she appears to be a most defenseless animal; and even when those weapons are shewn and extended for her defence, they appear weak and contemptible; but their wounds however small, are decisive and fatal. Conscious of this, she never wounds till she has generously given notice, even to her enemy, and cautioned him against the danger of treading on her.”

Little did Franklin know that his successful cartoon and writings would take on a life of its own. The yellow flag with a coiled rattlesnake is credited to Continental Colonel Christopher Gadsden from South Carolina in 1775. There are three versions of the rattlesnake with the words “Don’t Tread on Me” as a symbol of defending freedom and the rule of law.

The Donkey and Elephant representing political parties are probably the most enduring use of animal icons in American politics. While running for office in 1828, Andrew Jackson was often referred to as a jackass. Instead of shying away from this notoriety, he embraced it and began using it as a brand for his campaign. But the symbol of the ‘Democrat’ donkey really would not catch on for another 30 years.
Not until the Thomas Nast, a cartoonist for Harpers Weekly, did the Elephant and Donkey find their iconic role in American Politics. The GOP elephant made its first appearance in the Harper’s Weekly 1874 cartoon "The Third Term Panic". The cartoon depicts a donkey dressed in lion’s clothing and an elephant represents the mighty Republican vote. What is confusing is the Democrats are actually represented as a skittish fox cowering at the edge of the pit. It would be in later images where Nast would pick up the Jackson icon to represent the Democrats. Either way, the iconic Republican Elephant and Democratic Donkey would remain their icons for over a century.

The Bull Moose would later be used for a break-out political party headed by Theodore Roosevelt. Even though he was a past President, the Republican Party did not support Roosevelt. So, he and a core of other politicians created the Progressive or “Bull Moose Party” in 1912.

Thanks to Massachusetts Governor Elbridge Gerry the Salamander will forever be associated with unusual shapes of political districts. A signee of the Declaration of Independence, Governor Gerry signed the 1812 bill to create a weird shaped district in Massachusetts. The long thin irregular shape favored his party and expanded their power. Opponents described this freakish shape to a salamander. Combining the name Gerry and salamander, we get the term Gerrymandering. This unpopular political practice continues today.

The name of Copperheads joined the political fray during the American Civil War. Copperhead, or Peace Democrat, was the name given to any citizen in the North who opposed the war policy and advocated peace through a negotiated settlement with the South. The word Copperhead was first so used by the New York Tribune on July 20, 1861, in reference to ‘the snake that sneaks and strikes without warning.’

Finally, the Snapping Turtle has contributed to a little-known part of American Politics when Thomas Jefferson passed the Embargo Act of 1807. A political cartoon criticized the act which stated that American ships could not carry cargo to foreign ports and that foreign ships could not load cargo in American ports. This political cartoon uses the word "Ograbme", which is "embargo" spelled backward, and is represents a snapping turtle biting a British sailor in the ‘hinder quarters.’

Animals have been, and will always be, a part of our political landscape. Regardless of your political affiliation, please be a part of this sacred process and cast your vote in November.

Reference Links (click on the name to go to the web page referenced)
1 - Bald Eagle  2 - Franklin “Join or Die” Cartoon  3 - Gadsden Flag
4 - Donkey & Elephant  5 - Bull Moose  6 - Salamanders/Gerrymander
7 - Copperheads  8 - Snapping Turtle - Ograbme
There’s Nature in my Zoom!

Story and Photos by Lari Jo W. Edwards

“Zoom zoom zoom a zoom come on and zoom.” Everybody sing it now! Oh wait...wrong zoom. We are all zooming from meeting to meeting all day long. With the closing of schools and nature centers, we had to figure out what to do. No one was coming to our nature. SO of course, like everyone else, we shifted to zoom and Facebook to bring our nature to them.

In order to keep our eyeballs from looking like a cartoon character being hypnotized, we needed to switch from screen time to green time. We also wanted to keep the collaborative community we had worked so hard to build. So how is it that you get people into nature if they are sitting at their computer? This was our dilemma.

We have adopted an interesting strategy. We use nearby nature to get people outside. Our Zoom meetings are held from my backyard and I do a 10-15-minute lesson on something “field journally.” All the zoom participants go outside to their nearby nature for a 20-30-minute asynchronous (since we are all out of sync anyway) journal activity and come back to the group for a collaborative share out time. This has worked well, and we get to see what nature everyone finds near them. Ezra and Jesse found leaves on a vine that no one could identify, and Randy found a leaf as BIG as his face when we did a leaf study. What we first saw as a crisis of access to nature, we soon realized allowed us to zoom (pun intended) in on our own nearby nature.

“It’s a great way to realize there’s nature all around you whether you want it there or not!” – Participant who found poison ivy.

A list of Nature to find in your zoom:
- Leaf Studies
- 100” Hikes
- Compare the largest and smallest item in your nearby nature
- Insect Hunts
- Scavenger Hunts
- Color Wheel Hunts
- Find the alphabet in nature

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Catalina Island Naturalist Training Now Online

The first section of the Catalina Conservancy Naturalist training is now online. The free training offers individuals an introduction to the natural and cultural history of Catalina Island, one of Southern California’s famed Channel Islands. The training seeks to inspire awareness and appreciation of the island’s unique ecosystem, as well as train individuals to accurately convey to others the island’s history, mystery and magnificence. The Naturalist Training Section 1 is an ongoing program consisting of two videos and a Zoom Q & A hosted by the conservancy’s education staff.

Catalina Island Conservancy protects 88 percent of Catalina Island and is home to more than 60 plant, animal and insect species found nowhere else in the world. Interested? You can learn more about the conservancy and the training at catalinaconservancy.org. If you don’t find the information you seek on the website, contact the conservancy’s education team at 310-510-0954 x 226 or naturalistonline@catalinaconservancy.org.

Contributed by Aleta Walther, CIG, ATG, CTA

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Horace Albright on living through the Spanish Flu  
(March 1918 - Summer 1919)  
compiled by Mary Sullivan

[Disclaimer: In compiling these quotes from Albright’s book, I acknowledge that the book itself and other writings of his featured stereotyped and racist descriptions of Native Americans with relation to the national parks. Quoting him here does not excuse him from these other statements. My goal is to show that Park Service employees like Horace Albright experienced then some of what we are experiencing now, and that knowing this can be empowering to us as NPS employees today.]

“The frightening outbreak of the so-called Spanish Flu caused me to accelerate my plans for leaving Washington. Mortality was exceedingly high, especially for pregnant women. I had to get [my pregnant wife] Grace to the West Coast, which was reported to be somewhat safer. On July 1, we boarded a train for Denver, where we separated. She went along to her parents’ home in Berkeley while I began my travels...”

“On August 17 I climbed on a train at Cody, made a quick stopover in Denver, but avoided Chicago except for changing trains. When I arrived back in Washington on August 23, because of the flu epidemic, I walked all the way from the station to my apartment on California Street where it joined Columbia Road and Connecticut Avenue. Here was a statue of Civil War General George McClellan. Propped up against it was a sign warning, ‘Your cough may kill.’”

“...[Later] I packed my suitcases and caught a night train out of Washington on September 30. It was a depressing, heartbreaking trip. The train was overcrowded, mainly with men in uniform going to troop reception centers. We were packed in like sardines, and because of the flu the railroad provided masks and insisted we wear them at all tunes. That was pretty frightening, but cold as it was, I spent as much time as possible standing up in the fresh air between the cars.

When I arrived in Denver, I kept my train mask on, as the mayor had ordered every person in public to wear them. He also had forbidden the assembly of more than five people, so meetings with the Chamber of Commerce, the Hotel Men’s Association, the Tourist Bureau, and other groups scheduled for me had to be canceled. Instead, a tedious round of small conferences was held, often outdoors. The few inside scared me to death, for the disease was rampant in Denver.”

Months later, when Horace was back in Washington, World War I ended. He remembers, “I stood there on the corner, wondering if I wanted to celebrate, mix with the crowd. I admit to being a coward when it came to the Spanish Flu. Instead I went to dinner with an old friend from California with a mixture of joy and thanksgiving.”

-Horace Albright, Creating the National Parks

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Have you ever looked at a chicken and thought: “If chickens are birds, and birds are dinosaurs, and I am what I eat...?”

This is a revenge story that started in prehistoric times. The Jurassic period of the Mesozoic era in the Phanerozoic eon to be exact. We had little marmot-like bodies back then, dodging the giant footsteps of the triceratops and stegosauruses; trying to avoid the hungry teeth of the T. Rex and velociraptors nipping at our furry little heels.

It was then that we developed our fear of the sky.

The future bird, the pterodactyl, with fierce red? (let's say red—soft tissue, so who knows) eyes, and aquiline beak chopping down on our little necks gulping us whole or sharing our entrails with little, red and beady-eyed, pterodactyl babies.

And we have to ask, were we just mere hors d’oeuvres to their greedy stomachs? Did they nab us by the dozen and feast on our whole families?

But then, let's say a long time later, we stopped looking up so much at those flying dinosaurs. They got smaller and those little, furry mammals (us), grew up and stood up. Who’s laughing now?—we thought looking into the chicken coops and smiling at our domesticated dinosaurs. Who’s laughing now?

That is until Michael Peterson got convicted of murder for pushing his wife down the stairs. WHO, WHO, was laughing then? And then some children on bicycles in Eskdale felt something clip their helmet. ‘Strange,’ they thought. A jogger in Central Park, NYC leaning over to tie his shoe had his hat knocked off. And looking around—no low hanging tree branches; not a particularly windy day.

It was just a few stories in the beginning. Rumors at first. And then we all saw the pixelated video of shadowy figures perched in grainy treetops.

2020, the year of greatness, when the world seemed like a perfect place to live. Hope and harmony were flowing through the air. But on July 11th of that magical year something went wrong in that air. Dispatch’s phonelines started to ring and ring and ring. Emergency calls from Lake Mead, from Las Vegas, from Great Basin National Park. A day that would go down in history as D-Day, short for Dinosaur Day (also, colloquially, as Dre Day, short for Dinosaur Revenge Execution Day). It was bad.

I got an EMS call to meet someone at the visitor center. All that dispatch could tell me was that he had been attacked by a raptor. I wasn’t prepared for what would happen next.

The man showed up holding his wound. Blood was on the top of the head. A gash so wide and deep, it could only be described as a scratch. Dr. Tom and I gave him triple anti-biotic ointment. But would it be enough? I ran into Chandra, who told me that children in nearby Eskdale were carrying brooms on their bicycles, little Harry Potters shooing away the murderous monsters swooping from above. Lake Mead reported a rattlesnake bite—ground dinosaurs were in on it too.

After interviewing the Interpretive Rangers, it became clear to me that the dinosaurs had been
plotting for a long time. Reports as early as July 1st showed that pterodactyls had been swooping down on park visitors. A trail crew had a run in with the monster even before that. This went deep. Loren and I hiked to South Fork trailhead. These dinosaurs would have to be stopped. But what could we do? What was their weakness?

Then it hit me, as a member of the sign committee I had learned that the pterodactyl’s Achilles heel was a trail closure sign. So, Loren and I would have to brave the wilderness. What else could we do? Inaction could lead to more head scratches.

At the start of the trail, caws and screeches rained down from above, ear-piercing and terrorizing. We put up one sign on a nearby tree, knowing that we would have to cross the path of the pterodactyl to place the other sign.

We were being watched. Knowing that every step could be our last we took cover under the trees. Armed with only a helmet and a stick, we came up to the half mile mark on S. Fork Trail. This was where the flying raptor had been spotted last. A screech came from the trees. It was close now. We sprinted. Images of talons striking, decapitations, and blood spraying filled my vision...but...nothing happened. We placed the second sign and left the terrible place.

Heaving an exhausted sigh of relief in the parking lot we looked up one last time. A final screech rang through the stillness. The pterodactyl was soaring up and up, carrying what looked like a large mammal in it’s terrible talons. Had we been spared by a six-point buck or had we just imagined it?

Returning home, I hugged my dog, glad that this was all over. The signs had been placed. There would be no more attacks.

But later that night, while preparing dinner, I heard a tapping in my pantry. I opened the door and to my horror saw a small flying dinosaur flapping its wings against my interior window. It was inside. They had come for me. I put on a decorative Batman mask that was hanging in my kitchen, a large winter coat, and I grabbed a broom. Looking to my left I saw the door was wide open. Did I leave it open by accident? Did dinosaurs learn to open doors?

Some people say that they black out during battle or period of trauma. I remember everything. There were talons and feathers and chirps, broom sweeps, the sound of doors opening and hearts pounding. The dinosaur would not leave and had now pooped all over my pantry. With my broom, I banged out a screen from one of the windows and managed to brush the mini-pterodactyl outside. It let out one last screech and the dinosaur was gone. D-Day was over.

So we have to ask ourselves—do those dinosaurs up in the sky look down on us and think, ‘If humans are mammals, and I eat mammals, but mammals have dominated the world since that darn meteor came, then maybe it’s time to retake the world?’—Look above you.

Doug Geehan is a law enforcement ranger at Great Basin National Park in Baker, Nevada.
Blaze of Orange
Poem by Luiza McKaughan

I haven't seen my blaze of orange today
Orange and black and white, backlit by the sun, glowing in the early sunrise
I haven't seen my blaze of orange today
That blasted in from Alaska two weeks ago to my little feeder in Tucson
I haven't seen my blaze of orange today
My aerial maneuverer, my flying saber
I haven't seen my blaze of orange today
The Broad-billed and the Anna's are cautiously hopeful that soon the feeder will be theirs again.
The doves were by your feeder all day today and you do not even like the finches. We had a light drizzle two nights ago. Maybe you took the moisture and the impostors as a sign to continue on your journey.
You end your journey in Mexico completing the longest migration by body size of any bird.
I haven't seen my blaze of orange today
Hopefully someone else is enjoying you at their feeder
Godspeed little one
awwww
Here you are :-)

In Canada, the male hummingbirds leave the breeding grounds first - mid June to early July. The female hummingbirds leave a few weeks after the males - usually about a week after their fledglings leave the nest. The youngsters are on their own to make this most amazing migration! Jeff Babson-Wildlife Viewing Program SpecialistPima County Department of Natural Resources, Parks, and Recreation Map Credit: birdoftheworld.org
Protecting eagles protects Alaska’s ecosystem

Text by Aleta Walther © 2020 Photos by Craig Eddy
Naturalist, Outdoor Excursion Guide, CIG, CTA, ATG

Three days after arriving in Juneau, Alaska in 2013, a friend invites me to go to Eagle Beach State Recreation Area. Showcasing a white sand beach, the recreation area offers forever views of the Chilkat Mountains, Inside Passage and the saltwater confluence of two glacial rivers. It was here I saw my first bald eagles in the wild. As I vocalize my awe my friend quips, “They’re just scavengers.”

I respond, “You realize that most Americans will never see a bald eagle in the wild?” A Juneau resident, I suspect she takes the spirited, white-headed, cocoa-colored eagle for granted. Today, I am still enamored with eagles even though I see many every day. I have observed a dozen eagles perched in a 200-foot tall western hemlock, a lone sentinel perched on a streetlight and bonded pairs seemingly snuggling atop a power pole.

Like me, most of my excursion guests are in awe of the abundance of eagles throughout Alaska. I take advantage of this sense of wonder to share a message of conservation to protect all birds from toxins, pollution, poaching, and habitat loss. It delights me to witness a customer’s recognition and acceptance of my interpretive message, and it saddens me when others seemingly do not get it, do not care.

There are about 30,000 eagles statewide, more than the population in the lower 48 states combined. As a fellow interpreter, Scott Ranger likes to say, “If you didn’t see an eagle in Juneau, you didn’t get out of bed.”

Dumpster Diver
Each of my excursions travels over a creek where eagles flock in hordes. Some perch in nearby trees, broadcast towers and light poles, and others rest on a sandbar. I asked a local raptor expert why so many eagles frequent the area.

“There is good nesting habitat in the area and lots of food available, including salmon… and food scraps from the garbage dump,” said Stephen Lewis, a wildlife biologist with the U.S. Fish and Wildlife Service.

Yes, the bald eagle, the United States’ magnificent symbol of freedom, is a dumpster diver. As my friend says, “Just a scavenger.” On the other hand, the eagle is an apex predator among Alaska wildlife. Stephen also said that many eagles frequenting the dump get sick from eating food scraps despite the dump staff bulldozing trash under and using fireworks to scare birds away.

“Long valued for their aesthetic beauty, eagles are now recognized for their biological importance as scavengers and predators in the natural environment. These raptors deserve our protection and respect.” – Wildlife Notebook, Alaska Department of Fish & Game.

Not one to miss an opportunity to communicate an interpretive message, I share with my guests the importance of managing trash, not feeding wildlife, and not littering. Protecting eagles protects Alaska’s ecosystem.

Aleta Walther, CIG, ATG, CTA
Naturalist and Interpretive Guide
Gastineau Guiding Company, Juneau, Alaska
First Wild Pacific Trail’s Education Video Garners 5,000 Facebook Views
By Tanya Nestoruk

The Wild Pacific Trail Society is creating public engagement opportunities during the Covid-19 pandemic through a series of short educational and entertaining videos that highlight the magnificent flora and fauna of the Pacific Northwest.

Located in beautiful Ucluelet, British Columbia, Canada, the Wild Pacific Trail is a 9km walking trail that skirts the rugged cliffs and shoreline along the West Coast of Vancouver Island. The trail is a unique outdoor classroom, however, due to the pandemic, our regular interpretive walks and talks are on hold. So instead, we rose to the challenge and brought the trail experience online.

The Learn Where You Live series inspires personal connections to nature, thereby creating a wave of environmental stewardship through exploration of species found along the trail. One video showcases the areas Indigenous elders and teachers who share traditional wisdom through priceless insights, including the Nuu-chah-nulth, Yuululuʔiʔatl, and Gisele Martin of Tla-o-qui-aht First Nation.

I host the 5 to 10-minute videos with the assistance of my videographer Arya Toukeraiki. The series allows us to continue sharing our love of nature and videography skills with people across the world. I am happy to say the response to the series has been amazing. The Wild Pacific Trail Society has never created videos of this sort and our first video received more than 5,000 views on Facebook.

Join us as we uncover the Wild Pacific Trail’s unique creatures and their wisdom and secrets, including banana slugs, skunk cabbage and flammable moss. To watch the videos subscribe to the society’s Youtube page, follow on Instagram TV and Facebook or check out wildpacifictrail.com.

BOOK REVIEW

The Ghosts of Evolution


We live in a haunted landscape, notes author Connie Barlow in The Ghosts of Evolution. The ghosts of mastodons, giant sloths, rhinos, and other ancient monsters still prowl the landscape. Plants that once fed them cry out to phantom partners, and “we can still experience the great beasts that were lost, however, if we learn to read the plants.”

Her summary of the field of evolutionary ecology, which was still in its adolescence in 2000, helps pair present-day plants with the vanished giants that once fed on them. There is, Barlow notes, “a great basket of fruits all bereft of animal partners that disappeared thirteen thousand years ago.” Her profiled plants include such Great Lakes trees as pawpaw, Osage orange, and Kentucky coffee tree, as well as urban staples like gingko and honey locust.

Adding these insights to a seasonal nature hike gives interpreters the chance to transform a routine parkland into a time-hiccupped forest haunted by prehistoric creatures. As biologist Paul Martin puts it, “in the shadows along the trail, I keep an eye out for ghosts, the beasts of the Ice Age... Such musings add magic to a walk and may help to liberate us from tunnel vision.

Credit: Amazon

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Lehman Caves Virtual Tour
by Gretchen Baker

It’s here! The Lehman Caves Virtual Tour is out. This tour is a series of videos that was made from LiDAR scanning and photogrammetry done in the cave in two weeks in February 2020. Blase LaSala was the lead, with the LiDAR and color photos also collected by Robyn Henderek (Zion NP) and Eric Weaver (El Malpais NM). Jack Wood from NPS Geologic Resources Division did the photogrammetry. They were assisted in the cave by Becca Miller, Morgan Hill, Joan Bernardi, and Gretchen Baker.

A team assembled to decide how to put together a virtual cave tour and what should be emphasized. Ivan Bermejo wrote the main script, with additional portions written by Gretchen Baker, Joan Bernardi, Eva Jensen, Bryan Hamilton, and Morgan Hill, with consultation with descendants of Takeshi Ban and the local Shoshone and Goshute Tribes. All this was improved with reviews from Rebecca Gordon, Louise Hose, Tom Kearns, Robert Reinhart, and Ben Roberts. We sent out the resulting script for professional narration.

Blase spent months crunching through the data, using supercomputers to help make sense of the 5 billion points in the LiDAR pointcloud. He then started putting the video together, using direction from park staff to make it all work.

There were still a number of items to be incorporated. Blase found background music that fit well by Kevin Macleod. Ray Vermiglio designed a bat to be used to indicate the call-out videos. Ivan Bermejo and Melissa A. Treviño Butler did the Spanish captions. Gretchen Baker did the audio descriptions.

Nichole Andler wrote the press release and several social media posts and reached out to other parks to help review the video drafts and to help spread the word. Charlie Reed wrote additional social media posts and set up the new park website to direct visitors to the Park’s YouTube channel.

With Lehman Caves closed this summer, having a virtual cave tour that visitors can enjoy from wherever they are is a huge step in engaging the public in a meaningful way. We hope to inspire them to learn more about caves and to visit when the cave is open again.

Thanks to everyone who has helped in this team effort.

To view the tour, copy and paste this link into your browser: https://www.nps.gov/grba/learn/photosmultimedia/virtual-cave-tour.htm

Morgan Hill and Jack Wood preparing instruments for the LiDAR scanning and photogrammetry inside the cave.

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Cave Science and the Claustrophobe

By Karen Adams

I am claustrophobic. I do not willingly go into basements, attics, tunnels, or elevators (unless my hotel room is more than seven flights up). So how the heck did I end up doing “cave science”? The answer is astronomy. I wanted to work at one of the best Dark Sky Parks in the U.S.

Last summer I decided to take a three-day weekend to check out Great Basin and watch an astronomy program. While visiting I learned, to my horror, that all Interps must do cave tours. Go willing into caves! Several times a week! Yikes.

So I bucked up, paid the bucks, took a deep breath, and took the 90 minute Lehman Caves tour. I made it out without embarrassing myself by being caught whimpering in a corner. Then in November I visited Mammoth Cave and took their longest tour. OK, maybe caves aren’t so horrible when a Ranger is walking you through them and they know the location of all the light switches.

But I will NEVER enter a cave that requires me to crawl on my belly!

Enter Gretchen, the park ecologist here at Great Basin. She is quick to offer opportunities to take newbies into the caves to help with placement and retrieval of monitoring equipment.

The first time I went into Lehman, it was just the two of us and I was able to see areas off the normal tour route. It was good. Gretchen made me feel safe.

Next, I was offered the opportunity to do something a bit more adventurous. I would have to crawl on my belly and there was a “bonus” scramble down a chimney if we had time afterward. I decided to brave the belly crawl but was going to plead an urgent appointment to get out of the chimney.

Previously I had been warned that Gretchen could be a bit sneaky getting folks to do stuff out of their comfort zone. Actually, I was told to “look out for her.” I won’t rat out who said it, but his initials are CR (Charlie Reed, park astronomer).

Sneaky Gretchen took us to the chimney first. Tucker, a fellow seasonal, was the first to go down, then me and Doug (LE ranger). Tucker hit a dead-end and said, “I am not sure where we are supposed to go from here.” Gretchen was up at the top with her mischievous grin. Congrats, we had met our chimney challenge.

Next, we went to Ice Cave. It was really interesting placing the monitors and exploring the cave. Gretchen, Doug, and Tucker all tried a challenge climb at one point. Tucker was the only one successful on that trip. He credited his long legs and the fact that his girlfriend makes him do yoga.

I look forward to other opportunities to explore and I am super grateful that my fear of caves has greatly diminished since I have arrived. If you get the opportunity to do cave science, I highly recommend you give it a try.
Force of Nature Helps Youth Navigate Eco-anxiety and Eco-phobia

By Max Offerman
Social Media Director, Force of Nature

“The greatest threat we face is not climate change, but our feelings of powerlessness in the face of it”, says Clover Hogan, a 21-year-old climate activist and founder of Force of Nature. Force of Nature is a United Kingdom-based social enterprise that helps young people worldwide step up, rather than shut down, in the face of the climate crisis.

Clover recognized that while young people around the world want to make a difference, many feel powerless to do so. She focuses on helping youth address and understand feelings of eco-anxiety: extreme worry about current and future harm to the environment and climate change, and eco-phobia: feelings of powerlessness to stop environmental catastrophe.

In 2019, Clover began hosting workshops in classrooms across the United Kingdom and recently moved her workshop content online.

“We help young people realize that their eco-anxiety is a natural and appropriate response to climate change,” Clover said. “Over the course of multiple workshops, we facilitate discussions that help young people cultivate mindsets of agency, purpose and resilience.”

Clover isn’t the only one noticing the connection between the climate crisis and mental health. In 2019, Oxford University Language Center released a report that highlighted a 4,290% increase in the use of the word ‘eco-anxiety’, highlighting the growing concern of addressing the mental health impact of climate change.

Force of Nature’s free online workshops focus on helping aspiring activists, ages 16-24, shift from anxiety to agency and explore new pathways for their activism.

“You can learn more about eco-anxiety/eco-phobia and Force of Nature at forceofnature.xyz.”

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Keep Your Filthy Money

Story and photo by Robb Reinhart

I’m too old for this.

Whoever thought there would come a time when I was afraid to handle money? I mean, I’ve been in retail since I was sprung from college. Deposits, drops, cash drawers, proper change...they’ve been a daily staple since before I owned my first Motorola brick phone (Remember those? I remember once my car lost its emergency brake and had to chock my tire with it. But I digress.)

My point, and there rarely is one, is that I can’t remember a time when I was uncomfortable handling cash. Money is filthy. Always has been; always will be. Who knows what sorts of microbes get passed along on a $1 bill? Heck, a wallet full of twenties, if carefully defined, would probably constitute a Superfund Site! But it never bothered me before. I was young, invincible and in my cash-counting prime. There was a time when I’d gargle quarters just to keep my immune system tough.

Now, enter the age of pandemics and the continual march of the calendar. A couple of months ago I looked up and found myself less than a year from 50. Literally any number of things could animate my demise at this point. Alligators come to mind, or glutens, plastic six-pack rings, a beetle in the back of the throat (I steer clear of convertibles these days). Life is suddenly filled with potential, of the bad kind. This COVID-19 deal is just the proverbial icing on the cake of my mortality.

I always envisioned expiring to the sound of loons or a distant wolf howl; somewhere among shady aspens, fresh air, and a view - not still desperately gripping some unfiled 215 Report.

They say we can’t always choose when we go, or where, but despite my advanced age I choose to linger on, for at least a few more years. So, I will, and we all should, turn over a new leaf. Multivitamins are now one of my staple food groups, Lysol disinfectant my preferred choice of deodorant, and blue latex gloves something I’ll just have to learn to play the stand-up harp with. The next time you see me you may come to the conclusion that a lanky, six-foot Smurf has taken a detail as the park’s Supervisory VUA.

Perhaps the adjustments won’t be all that bad. After all, the park isn’t taking fees (for the time being anyway) and when we were it became quickly apparent that latex actually speeds up bill counting. Maybe such measures can at least remind us, and never too often, what it takes to be a considerate, thoughtful human being. I have discovered, after all, that one roll of toilet paper can go a very long way when not used with reckless abandon, and that frequent hand-washing is really just common courtesy.

Maybe we’ll relearn what objects and actions are really important, along with what things and behaviors we can pretty easily do without. There are costs which come with living on a planet crowded with life. And as tragic and life-altering as this crisis may turn out to be, maybe our general ability to sacrifice a few comforts will be the silver lining we didn’t expect.

And maybe, just maybe, our species will learn to construct protective face masks out of decommissioned, sanitized, recycled twenties. One can hope.

(Robb Reinhart is the fee supervisor in Interpretation at Great Basin National Park.)
Cool Bugs

By David Greene

On a backpacking trip to Johnson Lake in August, I was cooking dinner in a grove of Engelmann spruce (*Picea engelmannii*). On the spruce, I noticed strange cone-looking structures at the tips of some of the branches (Photo 1). I found several more of them in different stages of development on the trees around me. Some were old, grey and hollow, others were still green. I cut one of the green ones open and saw that they were structured with little dusty grey pockets (photo 2). Using a hand lens, I saw that those dusty grey pockets were actually bugs! Those were no cones; they were insect galls!

The galls were made by the Cooley Spruce Gall Adelgid (*Adelges cooleyi*). In the fall, an immature female Cooley Adelgid hunkers down on a spruce for the winter. In the spring, she matures and lays hundreds of eggs near the tips of the spruce. Once the eggs hatch, nymphs emerge and start feeding on the base of the spruce needles. The nymph’s saliva contains chemical messengers that trick the plant into growing these galls. The galls provide shelter and food for the nymphs as they mature. Once the nymphs mature, they emerge (photo 3).

This spruce gall, which isn’t harmful to the tree, is but one part of their whole life cycle. The life cycle takes at least 6 generations to complete. The first generation actually occurs on a different species of tree, the Douglas fir (*Pseudotsuga menziesii*). A few generations on the Douglas fir and, if the conditions are right, they will migrate to a spruce. After a few more generations on the spruce, when they ultimately migrate back to another Douglas fir to complete their cycle. The adelgids don’t cause galls on Douglas firs, instead they grow tufts of waxy threads off their bodies that give them a fuzzy appearance.

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Expertise Directory Reminder

We are trying to build up the IN Section Expertise/Specialist/Interest Directory by getting more section members to send us their information. Remember, this is completely voluntary. That being said, we encourage you to participate in the development of this directory because it will be an effective way to build professional connections with your fellow Interpretive Naturalist Section members.

Our goal is to have at least 10% of our membership (that would be roughly 100 people) send their contact information and a summary of their expertise, specialties, and interests. Once we get some critical mass, we will post the list on the section website for members to access.

For more information, email Lori Spencer at bflyspencer8@gmail.com.
Highlights of the Hemiptera BioBlitz
by Gretchen Baker

The 2020 Great Basin BioBlitz focused on True Bugs (Hemiptera). Two experts from Utah State University, Amy Springer and Cody Holthouse made 12 videos to help people learn more about this often-overlooked order of insects. “Not all Hemipterans are great...in fact most all of them suck,” said Cody Holthouse. That’s because Hemiptera are differentiated from other insects by having piercing/sucking mouthparts.

There are three main groups of True Bugs:
1. The Heteroptera (“Different wings”), which include stink bugs, squash bugs, bed bugs, chinch bugs, milkweed bugs, boxelder bugs, backswimmers, water striders, water boatmen, assassin bugs, and more!
2. The Auchenorrhyncha (Free-living hemipterans): froghoppers, spittlebugs, cicadas, leafhoppers, planthoppers
3. The Sternorrhyncha (Plant parasitic hemipterans-some don’t even have legs!): aphids, scales, and mealy bugs

Each day of the BioBlitz we held a Zoom meeting so that participants had a way to feel some community. Conversations included what people had found and tips on how to find true bugs. Ken Kingsley, a previous volunteer entomologist, joined in and shared some of his insights from decades out in the field and time at GRBA.

Participants collected in and near their homes (in Texas, Utah, and Nevada) and also in the Park. Overall, we had collections made in Strawberry, Lehman, Baker, Can Young, Snake, and Lexington Canyons.

I was especially excited when I found ants climbing up plants. I took a closer look and found they were farming aphids. The aphids are really tiny Hemiptera, without legs, that put their piercing, sucking mouthparts right into the plant. They then drink lots of plant juices to get the protein, excreting the extra sugar as “honeydew,” which the ants gladly eat. In return, the ants protect the aphids. I found aphids on aspens, cottonwoods, and rabbitbrush.

Another cool find was white puffy spots on prickly pear cactus. It turns out this is a protective covering of the cochineal bug, which is harvested in many areas for the red dye it makes. You may be eating it in some of your foods or wearing it in your cosmetics or red-dyed clothes.

Thanks to all who helped out! Over 80 observations were made on iNaturalist, and you can see those along with the videos by visiting the Park’s BioBlitz page: www.nps.gov/grba/learn/nature/great-basin-bioblitz.htm. We’ll know a little more about what was found in the next weeks as our experts identify what was collected in the Park.

Pictured: ants and aphids; Meg briefs the women’s NCC crew; cactus and white stuff; a child carries a net and crosses a creek.
Here are five gross articles that may be of use for Halloween programs. They are sure to either intrigue you or gross you out!

1. How Vampire Bats Survive Drinking Blood
2. If you are a Beetle and get Swallowed by a Frog, then Spelunk into the Digestive System
3. The Delicate Art of Bat Penis Bones
4. Whale Excrement Flavored Ice Cream?
5. Two-headed Timber Rattlesnake found in Arkansas
6. Cabinet of Natural Curiosities - Posters