

The Ridgeline

A close-up photograph of a belted kingfisher bird. The bird has a long, sharp, dark beak that is open. Its feathers are a mix of grey and white, with a prominent crest of spiky grey feathers on its head. A person wearing blue nitrile gloves is holding the bird, with one hand supporting its head and the other near its body. The background is a green, wrinkled fabric, possibly a surgical drape. The overall scene suggests a medical or veterinary examination.

NEWSLETTER OF THE BLUE RIDGE WILDLIFE CENTER

ISSUE 61 | SPRING 2024

Bird Flu and our Role in Protecting Public Health

*Belted kingfisher
receives treatment at the
Center of a fishing line
entanglement injury.*



Making a Difference, Together

As we confront challenges such as the current bird flu outbreak, (more formally known as Highly Pathogenic Avian Influenza, or HPAI) the role of wildlife centers like ours becomes increasingly vital.

At Blue Ridge Wildlife Center (BRWC), we are deeply committed to **One Health** research, an approach that recognizes the interconnectedness of human, animal, and environmental health. By providing care for sick and injured wildlife, we not only help individual animals but also contribute valuable data to understanding disease dynamics in wildlife populations. This data is essential for developing public health policies and preventing the spread of diseases that can affect both wildlife and humans.

This year, we're breaking all previous records for patient admissions, with a staggering 20% increase already seen. This surge in admissions underscores the critical need for our services, particularly amidst ongoing health challenges. Fortunately, we welcomed our summer rehabilitation interns in early May, who will provide invaluable assistance in caring for the thousands of injured or orphaned patients expected to come through our doors this summer.

During Volunteer Appreciation Week (April 21-27), we had the privilege of celebrating the extraordinary contributions of our volunteers. These dedicated individuals are the heart and soul of BRWC, generously donating their time and talents to support our mission. From assisting with animal care to leading educational programs, our volunteers play a vital role in our success. We extend our deepest gratitude to them for their unwavering commitment and passion.

Together, we're making a tangible difference in the lives of animals and the health of our environment. As a supporter, you enable us to fulfill our mission of wildlife conservation and rehabilitation.

As we navigate the challenges ahead, we're grateful to have you by our side, standing with us in our commitment to protecting wildlife and promoting a healthier, more sustainable world.

With gratitude,

Annie Bradfield

Meet our Newest Animal Care Team Members!

Christiana "Chris" Rizzo, Licensed Veterinary Technician



Chris became the Center's Licensed Veterinary Technician in April and has been an amazing addition to the team! After graduating from Delaware Valley University with a B.S. in Biology she went on to get an Associates Degree in Veterinary Technology from Penn Foster College. Over the past nine years, Chris has cared for animals at places like Lehigh Valley Zoo, Virginia

Safari Park, and The Naples Zoo, and her love for conservation has taken her to South Africa, Namibia, and China for volunteer work. Outside of work, you'll find Chris lost in a book, exploring the outdoors, or traveling.

Sabrina Adleson, Rehabilitation Associate



Sabrina joined BRWC in May, however her conservation journey started many years ago! Having always loved animals, Sabrina received her Bachelors of Science in Organismal/Environmental Science and a Masters of Science in Environmental Science from Christopher Newport University. After graduation she took on a variety of positions including bat researcher in Nevada and Fiji, animal behavior observation at the Virginia Zoo, Marine Mammal rescue and response with the Alaska Sealife Center, and sea turtle research and conservation

in Costa Rica! She originally interned at BRWC in summer 2019 but has returned year after year as a volunteer, seasonal, and now as a full-time rehabber! When not working with animals she is either teaching martial arts, birding, or hanging out with her pet lizards.

UPCOMING EVENTS AND PROGRAMS

JUNE 1

**Northern Shenandoah Valley
Master Gardeners GardenFest**
Belle Grove Plantation, Middletown, VA

JULY 2

Loudoun Pride
Heritage Farm Museum, Sterling, VA

SEPTEMBER 28

Annual Gala and Benefit Auction
"Wildlife Wonders ~ Silver and Goldfinch"
Museum of the Shenandoah Valley, Winchester, VA
Tickets and sponsorship are available on our website.
Act fast! This event sells out quickly!



OCTOBER 12

WildFest
The State Arboretum of Virginia at Blandy Experimental Farm
Free, family friendly event! Live animals, games and crafts,
face painting, and more! Interested in being an exhibitor?
Email education@blueridgewildlifectr.org



VISIT OUR WILDLIFE WALK!

Free self-guided tours between 10-4 every day.
Special \$5 programs occur most Tuesdays, Wednesdays, and Fridays.
Check the upcoming events on our website for more information!



ABOUT BRWC

Address: 106 Island Farm Lane, Boyce, Virginia 22620
Wildlife Hotline: (540) 837-9000
E-mail: info@blueridgewildlifectr.org
Web: blueridgewildlifectr.org

BRWC protects and conserves native wildlife by integrating veterinary medicine, rehabilitation, public education, professional training, and research.

BRWC is a 501(c)3 organization (EIN 54-1996991) and relies on private donations exclusively. Wildlife Centers may not receive payment to treat animals, nor do they receive state or federal funding. Contributions are tax-deductible.

BRWC is located on the Burwell-van Lennep Foundation (BVLf) property in Boyce, Virginia. The mission of the BVLf includes preserving the diverse ecology of this land, protecting wildlife, and environmental education. BVLf generously provides the land to BRWC at no cost.

THE RIDGELINE

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Upper Respiratory Infections in Woodland Box Turtles

Spring is here! With the rising temperatures, woodland box turtles throughout Virginia are emerging from their brumation sites. Unfortunately, that increased activity also means it's "turtle season" for us at the Center, with many coming into our care after run-ins with vehicles or lawnmowers. Not every turtle is a trauma victim, though—with immune systems challenged by the task of winter survival, they also fall ill with upper respiratory infections.

Box turtles with upper respiratory infections (URIs) often present with signs such as swollen eyes, mucoid discharge from the eyes and nose, and overall lethargy. These infections can be bacterial (ex. *Mycoplasma* spp.) or viral (ex. herpesvirus, ranavirus), and are highly contagious. They are easily spread around the environment as sick animals leave behind traces of contaminated discharge wherever they wander, posing the risk of exposure to all wild turtles.

Exposure alone doesn't always cause sickness, though; in fact, many of these turtles remain clinically healthy!

How can this be? From repeated exposure to local organisms, a healthy adult turtle builds up resistance to low levels of infection without the turtle becoming sick. Disaster strikes when the immune system is overwhelmed by other stressors such as



Turtles with URIs often present with nasal discharge, which can appear as bubbles from the nares.

injury, predation, major environmental fluctuations, starvation, or even being handled by a scary human! Pathogens can then take advantage of the compromised immune system and develop into active infection, causing severe illness that results in the bubble-blowing, swollen-eyed turtles we see.

Though many turtles with these signs have been immunocompromised, sometimes, even otherwise healthy turtles can still develop clinical infections if they are exposed to strains of bacteria or viruses their bodies aren't "used" to. Box turtles have very small home territories—often less than a quarter-mile radius—so the

organisms in their little neck of the woods can be very different from those in the next field over. The potential for turtles to spread (or contract) life-threatening diseases is one of the many reasons why we emphasize that turtles **MUST** be released back to their exact found location!

Treating URIs requires intensive daily care: soaks, subcutaneous fluids, nebulization, nasal flushes, and even systemic antibiotics if the infection has progressed to pneumonia. Many require placement of an esophageal feeding tube so nutritional support can be provided when they are too depressed or weak to eat on their own. On top of not feeling well, they often can't see or smell their food due to discharge blocking their eyes and nose. Tube-feeding these patients ensures their body has the energy to work on healing until their appetite returns.

Getting turtles to make a full recovery is time- and labor-intensive: the average URI patient stays in our care for at least 2-3 months and those that cannot be released by October first must stay with us through to the next spring!

We are currently working with the University of Richmond on research that hopes to establish the prevalence of some of these diseases in different turtle species across Virginia. The study is also looking at the spread of disease throughout different geographic regions.



These woodland box turtles with URIs all displayed classic ocular signs including swelling and discharge.

Collaborating for Wildlife

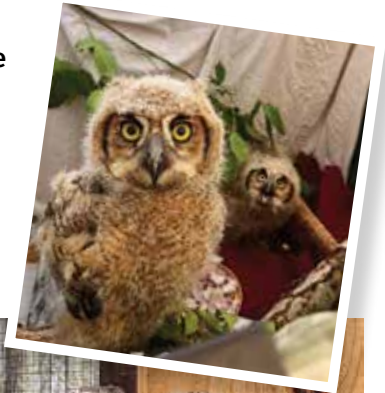
In Virginia, we're privileged to have such a wide network of skilled wildlife professionals throughout the state, including full-service veterinary hospitals, rehabilitation organizations, and home rehabilitators! As a wildlife-exclusive hospital, we're also happy to serve as a resource for private practice veterinarians working with home rehabilitators, who may be less comfortable addressing more complex medical conditions in wildlife species.

Dr. Belinda Burwell, Wildlife Vet Care

When our circular flight enclosure was undergoing much-needed repairs, this barred owl required more flight time to condition prior to release. Thankfully, we have a resource right next door with Dr. Belinda Burwell! She was willing to take this owl for a few weeks (alongside another barred owl already recovering with her) while our largest flight enclosure was being repaired. Thanks to her help, this owl was successfully released back home!

Wildlife Center of Virginia and Southwest Virginia Wildlife Center

In early April, we received a great horned owl after a failed renesting attempt. Shortly thereafter, both Wildlife Center of Virginia and the Southwest Virginia Wildlife Center also received single great horned owlets! It's always best to raise babies with conspecifics, and so both individuals from WCV and SWVWC were transferred to us to join our single and become a trio themselves! These three will be raised here and hopefully released sometime in late summer!



Richmond Wildlife Center



This Virginia opossum was taken in by the Richmond Wildlife Center after her leg got caught and broken in a garage door opening cable. After stabilizing her, RWC transported her to us for surgical stabilization of two forearm fractures. Thanks to their quick efforts, our veterinary team was able to stabilize the broken leg with an external fixator. After just a few months of recovering, this mom (and her pouch-full of joeys!) was able to be returned back home!



Animal Education and Rescue Organization



Animal Education and Rescue Organization (AERO) recently brought us a snapping turtle with a fractured jaw for surgical repair. We partner with AERO on many of their cases from Prince William County and beyond when specialized veterinary care is needed. They are an amazing resource in the northern Virginia area!

Loudoun Valley Raptor Center



Loudoun Valley Raptor Center is another great local resource. They not only bring us raptors in need of veterinary care, they also rehabilitate raptors that can be cared for outside the hospital setting!

Kristi's Caring Hands Wildlife Rehabilitation and Education



We are fortunate to work closely with Kristi Titus of Kristi's Caring Hands Wildlife Rehabilitation and Education, who is both an at-home rehabilitator as well as a weekly volunteer for us! Kristi often works with Loudoun County Animal Services and their humane law enforcement officers to get wildlife transported to our hospital for care. She also provides in-home care of orphaned wildlife, freeing up space in our hospital for more medically-sensitive cases!

Interesting Patients

Killdeer



This young killdeer was found weak, quiet, and cold—all concerning issues. After a quick exam revealed no obvious injuries, this youngster was placed in an incubator and given a quiet place to warm and stabilize. This baby bounced back quickly, and after 24 hours of supplemental tube feedings, began to pick up food on their own! Killdeer are born precocial, meaning they hatch able to run and eat on their own. However, these babies still need protection and help from their parents until they're old enough to fly—so this youngster will be with us for the next few weeks until they're fully-flighted and ready to live on their own in the wild!

Endangered Species – Spotted Turtle



This spotted turtle, a facility-first for us, was brought in after a suspected vehicle strike left them with multiple carapace fractures. Our veterinary team was able to clean and stabilize the fractures. This species is listed as a Species of Greatest Conservation Need in every state they're found in, and is listed as endangered by the IUCN, so every breeding-age adult is valuable to the population!

Did you know? It is illegal to raise or rehab a wild animal without the appropriate license and permits. If you are located in Virginia, use this website to find a licensed wildlife rehabilitator near you: dwr.virginia.gov/wildlife/injured/rehabilitators/.

Hooded Merganser



This male hooded merganser only required a few days in care before being successfully released. He had a crash landing on a roadway and was then promptly attacked by a hawk! After the hawk realized the bird was too heavy to carry away, an animal control officer who witnessed the entire event was able to easily contain the bird. This bird was likely stunned from the crash landing and subsequent predator attack, and quickly recuperated while in our care.

Red Fox

Thanks to the quick action of the Animal Welfare League of Arlington, this adult red fox was rescued after being seen struggling with a trap over the animal's head. Animal control officers were able to remove the trap and promptly transport the fox to us for further evaluation. Thankfully, a full exam showed no physical injury except some wounds around the neck where the trap had been clamped down. After 24 hours of monitoring with pain medications, this fox became extremely alert and active. We moved this adult to one of our outdoor enclosures to monitor their progress better in a less stressful environment, and after just under a week, this fox was cleared for release!



Baby Season!

It's that time of year again—don't get caught unprepared when a wildlife emergency presents itself! Found a baby animal? Brush up on the **Do's and Don'ts** and check out the **QR codes** for helpful advice regarding some of our most common Baby Wildlife Patients—Squirrels, Cottontails, and Songbirds!

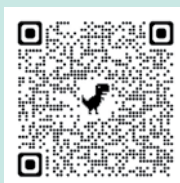


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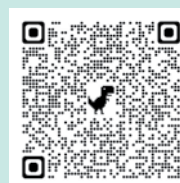
- Call a rehabilitator as soon as you have a concern!
- Wear protective equipment, like latex or leather gloves, when handling any wildlife.
- Note the exact address the animal was found.
- Take a picture—we'll likely need it to help identify species and better tailor our advice!
- If a baby is confirmed to need help, keep in a box with a lid somewhere warm, dark, and quiet.
- Keep pets and children away!
- Call and leave voicemails for many rehabilitators—the more people you call, the more likely you'll get help!

DON'T:

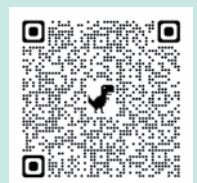
- Offer food or water.
- Put the animal with any domestic pets/livestock.
- Try to care for the animal yourself.
- Handle the animal except to get them in a container with a lid and proper ventilation.
- Call just one rehabilitator—you may need to call many and look outside your county/region.
- Just drop the animal off at a vet or other location without your contact information or the animal's found location.



Baby Squirrel



Baby Bunny



Baby Bird



Highly Pathogenic Avian Influenza (HPAI)

and the Role of Wildlife Hospitals in Protecting Public Health

The current outbreak of HPAI started in early 2022 in the United States and the situation is continuing to evolve. Now, we have seen the virus that was first found in wild birds show up in commercial and backyard poultry, wild and domestic mammals, and even humans. This outbreak highlights the importance of the **One Health** work that we do at the center. Diseases like HPAI wreak havoc on wild populations, but they can also affect pets, livestock and people. Our work as wildlife professionals, in conjunction with all of our actions as humans, can help mitigate the spread.

Background

Usually, HPAI circulates in wild birds at low levels, but outbreaks typically end quickly and do not affect domestic animals and humans, nor do they have major effects on wildlife populations. However, the current outbreak has been ongoing for over two years now and is NOT staying limited to the wild bird population, nor does it appear to be going away anytime soon.

Influenza viruses, including HPAI, have quite high mutation rates. Slight mutations that occur when the virus replicates in a host can lead to changes that alter the virus's ability to function. This may include increasing its ability to infect new hosts. These mutations are what allow a bird-specific virus to suddenly infect domestic bird species, then mammals, including pets, livestock, and people. Because of these features, influenza viruses have exceptional zoonotic potential and the potential to become major pandemics.

Many of you may have studied the highly lethal Spanish Flu pandemic of 1918, which was caused by an Influenza A virus just like HPAI and killed an estimated 25-50 million people, but we have seen the mixing and mutating of influenza viruses cause mass fatalities in our own lifetimes. Swine flu (2009-2010) is often considered the first pandemic of the 21st century. Though SARS-Cov-2 far overshadowed swine flu, the latter (another influenza A virus) resulted in nearly 100,000 confirmed human cases and hundreds of human deaths.

Influenza viruses, which very commonly start in animal populations, have demonstrated their ability to mutate into powerful pathogens impacting human health. When we protect the health of animals

and our environment, we protect human health too and this One Health approach is central to wildlife medicine and what we do at the center.

HPAI in Our Wild Patients

Since early on in the outbreak, the center has participated in surveillance of this disease through a study at Tufts Cummings School of Veterinary Medicine. We test every higher-risk species (waterfowl, raptors, gamebirds, etc.) as well as birds and

mammals with neurological signs. Over the past two years, we have been fortunate to have just three positive HPAI cases in our hospital—A black vulture from Prince William County, VA, a great horned owl from Jefferson County, WV, and a black vulture from Fredericksburg, VA. In addition to surveillance done at hospitals like ours through studies like this, the United States Department of Agriculture works with state and federal partners to test animals throughout the U.S. and compile all the data seen in the maps pictured on this page.

We have not had any mammals that were checked at the center test positive for HPAI, but surrounding states have had positive reports in species we commonly see here, including red foxes, skunks, raccoons, Virginia opossums, and others.

Working in a Wildlife Hospital During an HPAI Outbreak

In addition to testing, BRWC has put MANY safety measures in place for our





staff since the outbreak began. As wildlife professionals, we are exposed to a wide variety of zoonotic diseases and we take that risk very seriously. HPAI and other diseases can be spread to humans through contact with wildlife, the surfaces they touch, or simply breathing in respiratory droplets or dust. To help protect our staff and other patients, initial exams of high-risk species are done outdoors in a covered area behind our hospital and staff wear full personal protective equipment including gowns, gloves, and face masks when handling animals prior to receiving their HPAI test results. While test results are pending, these high risk species are kept in 1 of 3 dedicated quarantine rooms. These protocols and others help to keep all of us at the hospital safe and prevent the spread of disease. Finders who come across high-risk birds are also given special instructions on how to contain and transport such species, which is one of many reasons it is so important to call a rehabilitator before you intervene in any wildlife situation.

HPAI in Domestic Animals

Although we work specifically with wildlife, we must consider the domestic, environmental, and human activities that help to spread novel pathogens and consider the greater context of our work and research. This past spring (March 2024) new reports emerged of free-roaming domestic cats and more recently cows testing positive for HPAI. This is especially alarming for the human population as far more human exposures occur once domestic animals are infected given the significantly higher rate of interaction between humans and domestics vs. humans and wildlife.

Although it is unclear how the disease spread to cats and cows (from poultry on the dairy farms? From barn cats on the farms to the cows? Directly from wild birds?), the way the disease is spreading on some impacted dairy farms suggest that there may be lateral transmission of the virus from cow to cow. This is a rapidly evolving situation and we may know more by the time of publication, but mammal

to mammal transmission suggests that the jump from domestic mammals to humans now has even greater potential.

For now, government agencies are attempting to help reduce spread by instituting laws and issuing warnings. For example, as of April 29th, all dairy cattle being transported between states must receive a negative test result for HPAI from an accredited laboratory and there is required reporting of positive test results. USDA and others have been sharing relevant information with the public, such as the increased danger around raw milk products given that these viral particles have been found in milk (pasteurization kills these particles so pasteurized products are not a concern). Major news outlets have also helped spread the word about HPAI and the species we are seeing it in so that people can make more educated decisions about what they choose to consume and how they interact with pets and livestock.

HPAI in Humans and What You Can Do To Help

At this time, the current circulating strain of HPAI is still considered low risk to humans. There have only been a handful of cases worldwide and even fewer human deaths associated with the virus. Help minimize the risks by following the advice below:

- **Do not handle any wildlife (especially birds and mammals) without the guidance of wildlife professionals or without proper personal protective equipment.**
- **Keep backyard poultry safe by monitoring your flock closely and addressing any illness with your poultry veterinarian as soon as possible. Avoid traveling with your poultry (for trips, shows, or other reasons) whenever possible.**
- **Do not allow pets to free-roam. Free-roaming dogs and cats can easily come into contact with infected wildlife or wildlife carcasses and become infected with HPAI without you ever knowing. If free-roaming pets are showing signs of disease, follow up with your pet's veterinarian immediately and be sure to provide the vet with a thorough history on the pet's free-roaming lifestyle.**
- **Avoid interacting with obviously ill domestic animals and be wary around domestic animals that may appear clinically healthy, especially if you have an immunocompromising condition.**
- **Support wildlife hospitals and others who are involved in studies that protect wildlife AND public health.**

Volunteer Appreciation

This year we celebrated Volunteer Appreciation Week (April 21-27th) with fun gifts for our amazing volunteers, as well as two Birding & Brunch events, where we treated our volunteers to some breakfast snacks and drinks, and then a 1-2 hour birding walk at two local natural areas with one of our staff. Our groups were able to observe a great blue heron rookery, nesting bald eagles and osprey, kingfishers, multiple migrating spring warblers, and 30 other species!

We also hosted an Earth Day volunteer clean-up, where nearly 50 volunteers showed up on Earth Day to help us clean up our pre-release area of old enclosures, broken equipment, used construction materials, and more!

Without the amazing dedication of our volunteers, we wouldn't be able to provide high-quality medical and daily care to the 3,500+ animals we receive each year, as well as care for our 18 Wildlife Ambassadors, and we hope to continue showing our appreciation for these wonderful people who help care for native wildlife.

Earth Day Clean-Up



BRWC Building and Grounds Manager, Morgan Powell (far left), leads the group of volunteers who helped clean up our pre-release area.

Photos by Scott Jenkins.



Birding & Brunch

B&B events were held at the Occoquan Bay National Wildlife Refuge and the Shenandoah University River Campus at Cool Springs.



Volunteer **Spotlight:** Sydney Lewis, DVM



We have been incredibly fortunate over the past five months to have Dr. Sydney Lewis at BRWC! A Virginia native, Dr. Lewis received her doctoral degree from Ross University School of Veterinary Medicine and completed her clinical year at Tufts Cummings School of Veterinary Medicine (our hospital director's alma

mater)! She was able to hit the ground running due to her extensive experience with wildlife prior to graduation which included completing an international veterinary experience in Costa Rica, exposure to sea turtle and primate medicine while studying at Ross, electives at the Tufts Wildlife Clinic, and a rotation at the Clinic for the Rehabilitation of Wildlife (CROW) in southwest Florida.

Although she will be returning to Massachusetts in June to begin the prestigious wildlife medicine internship at the Tufts Wildlife Clinic, we are so grateful to have had Dr. Lewis volunteering nearly 40 hours per week while between her schooling and internship. Having a third full-time volunteer veterinarian at the center over the past few months has been an extraordinary benefit to our staff, volunteers, and students who were able to learn so much from her! Dr. Lewis is a highly-skilled and caring clinician, an encouraging teacher, and an amazing human. She has such a bright future in the field of wildlife medicine and we cannot wait to follow her journey and see all she will continue to accomplish!



Are you Interested in Volunteering?

Have you always wanted to work with wildlife, but don't have the time or resources to dedicate to becoming a home rehabilitator? Volunteers help us in many different areas around the Center—Docenting, Rehabilitation, Construction, Administrative, Transport, and so much more! Volunteers only need to commit to a minimum of five hours a week, and we're accepting new volunteers for most days throughout the week! Check out our application online and e-mail it to us—we can't wait to hear from you!

blueridgewildlifectr.org



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Want to help the hundreds of patients currently under our care?

!!! Check out our **baby registry** on Amazon! !!!



We've already taken in over 1,500 animals this year!

Consider helping us care for all of these patients by visiting our **Amazon Baby Registry** and purchasing items we have a need for.

As a nonprofit wildlife hospital, we don't receive any funding from the state or federal government and cannot charge for our services.

Thank you to everyone who has donated, mailed in items, purchased items from our baby registry, volunteered, or taken the time out of their day to get an animal help.

We couldn't do what we do without all of you!

Scan code to go directly to
our Amazon Baby Registry.

