The Ridge Genter Newsletter of the blue ridge wildlife center SSUE 32

Time to Hibernate Discover who does it and why

Hibernating Chipmunk

Mycoplasmosis 101 | Rehab Corner | Education Ambassadors | Society of Wildlife Guardians

LETTER FROM THE CHAIR



Dear Friends of Wildlife —

This issue of **The Ridgeline**, No. 32, marks the first winter in our new facility. We are so very grateful to each one of you who has contributed a capital investment to this project, making this dream a reality!

We're thrilled to be in a place that gives us the ability to:

- Immediately assess and treat each patient that comes through our blue door—into our reception area and then directly into our wildlife hospital;
- Rehabilitate each patient in appropriate rooms, keeping predator/prey separate;
- Provide separate areas that allow for hibernation, swimming and flying;
- Provide generous enclosures for our wildlife ambassadors;
- Provide areas in which our ambassadors can be trained, exercised and enriched;
- Teach visitors about our native wildlife onsite, all year round, in our Ronald M. Bradley Learning Center;
- Have ample space to allow for staff, volunteers and interns to work in an environment that promotes learning, caring, teaching and planning—together;
- Have a dedicated space for our amazing maintenance/building volunteers, to house their tools and supplies for a multitude of wildlife-related projects;
- And I can go on and on, letting you know what a difference being in this facility means to us—to the staff, volunteers <u>and</u> wildlife that are here, seven days a week.

Thank you to all who support the Center's work and to those of you who have joined the ranks of our newly formed **Society of Wildlife Guardians**. (See Franny Crawford's report on page 10). Support is needed all year long to maintain our day-to-day operations, which include treating and rehabbing native wildlife and maintaining and building outdoor enclosures that are so critical to the care of both our ambassadors and releasable wildlife.

While our intake numbers decrease during these winter months, as you can see from articles in this publication, many animals come into our care throughout the year. Each patient presents a unique case, demanding our attention, expertise and care. And when we are not caring for the animals, we're planning and preparing for the next two seasons, our annual Baby Shower, Summer Camp and the many wonderful summer interns!

Thank you for all you do to help us help our native wildlife survive and thrive!

With best regards, Lisa Goshen

THE RIDGELINE

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The Blue Ridge Wildlife Center is a 501 (c) 3 charitable organization established to provide assistance to native injured and orphaned wildlife and other helpful information to the public in northern Virginia, the Shenandoah Valley, and beyond. The Center provides quality rehabilitative care for wildlife and operates the Wildlife Hotline at 540-837-9000

The Center also presents environmental education programs for people of all ages. Schools and organizations are invited to call for scheduling and fees.

The Center relies on private donations exclusively. It receives no funding from federal, state, or local governments. Contributions are tax-deductible.

> Follow our wildlife stories on Facebook and Twitter!



Designed by Dara Bailey Design Printed by Winchester Printers

COVER STORY

Hibernation:

What is it and who does it? By Jessica Andersen

If winter puts you in the mood to stay snuggled up inside and sleep for days, you're not alone. During the winter months, many animals "opt out" of the cold weather.

True Hibernators

Chipmunks, groundhogs, and some species of bats are "true" hibernators, meaning that they will fatten up before cold weather hits, find a burrow, den, or roost, and then shut their bodies down until the weather warms. Their heart rates and body temperatures decrease significantly, and they rely on fat stores and a lowered metabolism to survive through their hibernation. Many of these animals can delay hibernation if the weather stays warm and food is abundant.

Reptiles

Like mammals, reptiles also go through a hibernation-like metabolic reduction, called *brumation*, either burrowing themselves in the mud of a pond or creek bed or seeking shelter underground beneath the frost line. This behavior is entirely dependent on the temperature outside; being cold-blooded, they cannot use their own energy to keep themselves active and warm.

Reptiles do not "sleep" as deeply as mammals appear to, but actually seem to be in a state of suspended animation. They wake periodically during brumation (unlike hibernating mammals) to consume water or become minimally active if there is a warm, sunny day. When it is cold, or if they are brumating under ice, turtles can go for months without a fresh supply of oxygen and can slow their heart rates to just a single beat every few minutes.

Amphibians

Amphibians also have an interesting cold weather strategy for survival. Some amphibians can freeze solid, having developed a mechanism to protect their tissues from the damaging effects of freezing. Once warm weather thaws them out, they spring back to life, seemingly by magic. Scientists have discovered that these frogs use sugars and urea in their tissues to protect themselves from ice damage, though this process is still not understood completely.

Reduced-Activity Animals

Many animals, however, don't truly hibernate. Opossums, foxes, raccoons, skunks and squirrels are all examples of animals that you might see active on a "warmer" wintery day. They may sleep more often in the winter, but when the weather breaks, they will be rummaging about for food. These animals will develop a thick winter fur layer, as well as a layer of fat, to withstand the cold and help when food is more scarce. Even with a thicker coat, many opossums can experience frostbite on their bare ears and tails.

Bears are also not true hibernators, but do den in the winter. They can be active on warmer days, which explains why the Center has received many



Animals that come in sick or injured in the fall or winter must be overwintered at the Center, in our specific Hibernation Room, as they cannot be released while it is cold.



phone calls recently about sighted Black Bears roaming about late in the season. These animals that den are more likely to present to the Center during the winter, as they are more prevalent in residential areas.

Sick/Injured Wildlife

The Center quite often receives bats through the winter when their hibernation is disturbed or they wake up trapped inside a warm house. Because winter weather is too cold for these animals to be released and since their food source (insects) is scarce, they must be overwintered here at the Center until spring. Animals that come in sick or injured in the fall or winter must be overwintered at the Center, in our specific Hibernation Room, as they cannot be released while it is cold.

This season we are overwintering four bats and 13 turtles that could not be released before the cold weather arrived. Animals that are sick or debilitated cannot hibernate, so many of these animals are awake. Others began hibernating a bit later than normal, after their wounds had healed and their body condition improved. These patients will be ready for release as soon as the weather is warm enough in the spring!

Mycoplasmosis By Dr. Jennifer Riley

Have you ever come across a turtle blowing bubbles from its nose? Seen a bird at your feeder with crusty eyes? If so, these wild animals may have been suffering from a disease called *mycoplasmosis*.

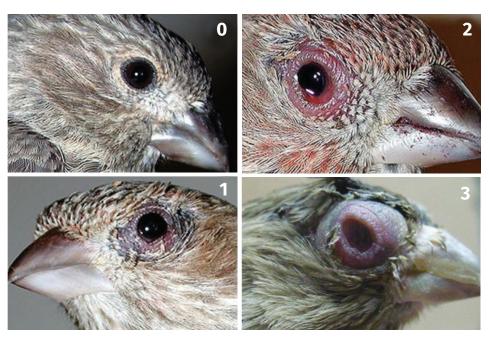
Mycoplasmosis is a disease prevalent in many wildlife populations and something we see commonly at the Center. Mycoplasma is a genus of bacteria that has been known to cause disease in humans and domestic animals for a long time, but its effect on wild populations is more difficult to assess.

It's important that we monitor this disease as it's present in many different species of wildlife with high rates of infection and death. The most common presentations we see here at the Center are conjunctivitis (inflammation of the tissues around the eye) in finches, upper respiratory infections in turtles and arthritis in Black Vultures. It can also be seen causing joint swelling and lameness in wild carnivores, such as raccoons and wild cats.

Interestingly, this bacteria is found in many healthy animals as well. We do not yet know what exactly causes this bacteria to go from a normal commensal organism (one that benefits without causing harm to the other) to a dangerous disease-causing one, but anything that suppresses the immune system may promote its growth. Some possible contributing factors are viruses, cold weather, high lead levels and general poor health.

Conjunctivitis

Most avian mycoplasmosis cases that we see at the Center are in finches. You may see finches in your backyard with conjunctivitis. They appear to have red, swollen eyes, oftentimes crusted shut from dried discharge. Over time, the



ABOVE: These photos illustrate the progressing levels of severity of mycoplasmosis. Photos by Dr. Dana Hawley BELOW: Turtles that have nasal discharge are most likely suffering from mycoplasmosis. Photo by Dr. Jen Riley

inability to see makes it difficult for them to fly and find food, leading to weakness, emaciation and death. The symptoms of this infection are easy to treat, but occasionally a bird may be so weak and emaciated, causing organ failure and secondary disease, that it cannot recover.

Mycoplasmosis is considered one of many "feeder diseases" as it's spread by direct contact, which often happens when a healthy bird feeds after a sick bird. (see page 8 for tips on keeping bird feeders clean). If you see a finch (or any bird) that you fear may be suffering from this disease, please call the Center.

Upper Respiratory Infections

Another common presentation of the disease is upper respiratory infections in turtles. It's most commonly seen in Eastern Box Turtles. This infection is contagious to other reptiles, though many turtles are asymptomatic carriers

Mycoplasmosis is considered one of many "feeder diseases" as it's spread by direct contact, which often happens when a healthy bird feeds after a sick bird. (those that are not sick) of the bacteria.

Because they can spread the disease without showing symptoms themselves, it's extremely important that turtles are released exactly where they were found or the safest area possible within a mile of that place. Reptile and amphibian populations have been completely wiped out over the unintentional release or relocation of one animal bringing in a new disease.

Turtles also spend their entire lives in a relatively small home range and cannot do well when released in other areas. At the Center, we make sure to get very exact locations of where turtles were found so that we can prevent this



Wildlife diseases, such as mycoplasmosis, receive little attention as many of the impacted wildlife populations are large enough to survive despite significant losses from the disease.

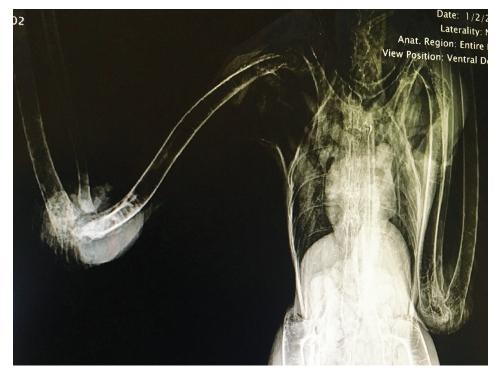
type of unintentional disease spread and give the turtles the best possible chance of survival. If you see a turtle that appears to have nasal discharge, it's likely suffering from mycoplasmosis or another infection and should be seen at the Center for treatment.

These turtles are often noticeably dehydrated (skin on legs or head may be wrinkly and flaky) or thin and may have swollen eyes or other issues. Although this form of mycoplasmosis does not transmit readily to humans, gloves or other protective measures should always be used when attempting to handle wildlife—even those that don't have talons or sharp teeth.

Joint Abnormalities

In addition to respiratory and eye problems, many animals can develop arthritis or abnormalities in multiple joints that cause lameness or prevent normal movements. Though it can be seen in wild carnivores, it's most commonly seen





ABOVE: X-ray showing elbow joint abnormality due to suspected mycoplasmosis in Black Vulture. Photo by Dr. Jen Riley

in Black Vultures that are not flying. On examination, one or more joints appear severely swollen. As opposed to the finches and turtles, animals with joint disease tend to have a very poor chance of recovery.

By admission time, often the infection has taken hold in the joints and started to destroy adjacent bones. The destruction of bone and the extent of infection can be confirmed by X-rays. Bone destruction can be very painful-severely infected animals are often euthanized. In less severe infections, treatment can be attempted, but if successful, the animal will still be left with some degree of joint abnormalities and arthritis. In some species, limited mobility may be acceptable, but in those that need to fly perfectly to hunt or run fast to avoid predators, this level of healing may not be sufficient.

Wildlife Diseases and Zoonoses

Wildlife diseases, such as mycoplasmosis, receive little attention as many of the impacted wildlife populations are large enough to survive despite significant losses from the disease. In the past few decades, human-caused issues such as habitat loss, pollution and landscape changes have interfered with wildlife's ability to withstand loss caused by natural disease. When rates of diseases like mycoplasmosis rise, there are risks posed to human and domestic animal health as well. It's believed that many of the outbreaks of mycoplasmosis have been caused by domestic livestock passing infection to wildlife through contact across fences or in pastures. Transmission to humans, while rare, can be minimized with appropriate handling of wildlife (e.g. gloves and cleanliness).

Mycoplasmosis is a disease that will not be eradicated from our wildlife populations any time soon. Our hope is that you will be more aware of the issue and the symptoms. As always, call us for advice if you find an animal that's not doing well. We all benefit when wildlife hospitals and the public work together to learn more about emerging diseases. Thank you all for your help!

Interesting Cases Rehab Corner

By Jessica Andersen



NORTHERN SAW-WHET OWL

(Aegolius acadicus)

This fall we received a call about a small owl that was found on the side of the road. The rescuer safely contained the owl in a carrier and transported it to us. We receive Eastern Screech Owls, our most common "small owl" patient, quite regularly, but upon arrival we realized this was a much less common owl species.

With a mottled white face, bright yellow eyes and a stature smaller than a Screech Owl. this was a Northern Saw-whet Owl. These owls reside in the forests across Canada and the northern U.S. in the summer and reside as far south as north Florida in winter. This patient presented with an injury of the coracoid, a shoulder bone that helps the bird fly. It was prescribed pain medication and a wing wrap to support the bone while on cage rest. This patient is still in rehabilitative care.

Photo by Jessica Andersen



AMERICAN BLACK BEAR (Ursus americanus)

Mange is a common ailment that affects many mammals. It presents as hair loss, scratching, and dry, scabbed skin and is diagnosed by microscopic examination. Mange doesn't kill directly, but rather makes the animal succumb to secondary infections more readily or hypothermia during the cold winter months.

This autumn, a first-year bear cub with obvious mange was found in a carport, a dead mother bear found nearby. The homeowner was able to get the bear cub into a large dog kennel and brought it to the Center. We contacted the Department of Game and Inland Fisheries (DGIF) to transport the bear cub to the Wildlife Center of Virginia-the only center legally permitted to treat bears in the state of Virginia, where it is still in its care.

Whenever dealing with bears, it is best to always call the Center or DGIF to assess the situation. Bears, even cubs, can be very dangerous and you should never attempt to handle them without professional assistance and advice.

Photo by Dr. Jennifer Riley



GRAY FOX

(Urocyon cinereoargenteus) This Gray Fox was sitting beside the road, nonreactive and seemingly unmoved by the people standing nearby. Gray foxes are fairly uncommon patients as they tend to stay away from humans and residential areas, unlike the more commonly seen Red Fox.

This fox had difficulty breathing and head trauma, but after a day on oxygen, fluids and pain medication, he began to perk up. He started eating on his own slowly and got stronger and more responsive every day, finally showing an appropriate fear reaction whenever someone entered the room. After being monitored in an outdoor enclosure, he was successfully released!

Photo by Dr. Jennifer Riley

Do You Know...

...the difference between poisonous and venomous animals? Poisonous animals *secrete* toxins through their skin that can be deadly if you touch or ingest them, while venomous animals, like the Timber Rattlesnake, *inject*

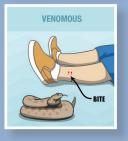
toxins if they bite you.



TIMBER RATTLESNAKE (Crotalus horridus)

This Timber Rattlesnake, one of three venomous snakes found in Virginia, was brought to us by a DGIF officer after it had suffered head trauma from being hit by a vehicle. There was damage to the jaw that has since healed. It is currently being overwintered in our Hibernation Room in the Center until spring, when we can critically assess its hunting and eating abilities. Photo by Jessica Andersen





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EDUCATION NEWS

Introductions to Some Education Ambassadors

By Jessica Andersen



RUFIO Eastern Gray Squirrel (Sciurus carolinensis)

This fall three baby squirrels were brought to the Center when their nest was destroyed after a tree was cut down. Two of the babies were healthy, but one had an eve issue that left him blind in that eye. While in care, his top incisors fell out, leaving him with just the bottom incisors that would grow uncontrollably. We suspect that he was born with minor genetic defects that led to both abnormal eve development and tooth issues. He cannot be released and is now an Education Ambassador for his species. Photo by Jessica Andersen



BLOSSOM Virginia Opossum (Didelphis virginiana)

Sadly, we lost Oscar, our Educational Ambassador Opossum, to age-related issues. Shortly after losing Oscar, three sibling opossums arrived at the Center, the only ones to survive after their mother was killed by a car. One sibling passed away from injuries; another had minor injuries and was released when ready: and the third suffered head trauma and ocular (eve) damage. This third opossum will join our team of **Educational Ambassadors** and has been named Blossom. Blossom will show children and adults alike just how interesting and important Opossums are to our ecosystem! Photo by Hillary Davidson



HARLEY Groundhog (Marmota monax)

In 2016, the Center saw many young groundhogs, also known as a woodchucks or whistlepigs. One Groundhog in particular was found after being hit by a vehicle causing injuries to her jaw and teeth. Her jaw healed slightly askew and three incisors fell out. With missing teeth and jaw alignment issues, she is not able to keep her remaining teeth filed down enough to survive in the wild as rodent teeth grow continuously. Though the jaw fracture has healed, the single tooth requires filing to prevent overgrowth and we must continuously monitor her other teeth for abnormal growth. Due to these issues, this Groundhog will live a long and healthy life at the Center as an Education Ambassador. She will be available for programs once her training is complete. Photo by Jessica Andersen



BASIL Eastern Kingsnake (Lampropeltis getula)

The Center has added another cold-blooded member to our Education team! This blind Eastern Kingsnake was brought to us from the Discovery Museum of Winchester. Though Kingsnakes eat rodents, birds, and lizards, they are famous for eating other snakes! They are not affected by pit viper venom and can safely eat copperheads, rattlesnakes, and cottonmouths. If you're scared by venomous snakes, you want Kingsnakes around!

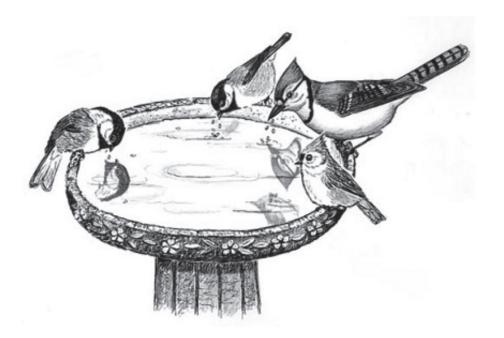
Along with our Cornsnake and Black Rat Snake, Basil will help educate people on the importance of snakes in our environment, as well as the interesting adaptations snakes have developed for living a "limbless" life! Photo by Dr. Jennifer Riley

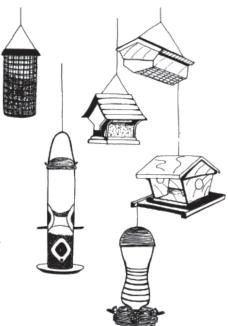
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Keeping Bird Feeders Clean

Tips on Having a Healthy Enviornment for your Backyard Birds

- Birds need fresh water year round, especially when water sources are scarce. In winter, provide a heated bird bath.
- Clean bird baths frequently.
- Bird feeders are especially important in winter and spring, when seeds and insects are scarce. Beneficial food includes black oil sunflower and thistle and suet. Make sure your seed is dry and clean.
- Clean your feeders every one to two weeks. Use a 10% bleach solution, scrub thoroughly and dry well before filling.
- Place feeders and baths away from large windows to help avoid window strike injuries.
- If you notice a sick bird (e.g. fluffed up with crusty eyes and quiet), this could be a sign of disease, such as mycoplasmosis. If you are able to catch the bird, bring it to the Center for treatment.
- Enjoy watching your backyard birds!







Call for 2017 Intern Housing

With summer and baby season fast approaching, the staff at the Center is busy making preparations, including reviewing intern applications. With so many animals brought to the Center during the next few months, the staff can use all the help it can get.

The number of out-of-state interns that the Center can accept is entirely dependent on housing, graciously donated by our supporters. If you or someone you know may be able to donate a room or two in your home for aspiring wildlife stewards, please contact the Center by phone or email Intern Coordinator Heather Sparks at *heather*@ *blueridgewildlifectr.org*.

2016 Blue Ridge Wildlife Center Stats

In 2016 the Center took in nearly 2,000 wild animals! Of those, 55% of our patients were juveniles, most of which were orphaned or abandoned, though 25% of those juveniles were admitted primarily for being sick or injured.

The first 24 hours of a patient's time in our care are the most critical. Patients that have been assessed by our veterinarian to have a very poor prognosis are euthanized; some die despite our best efforts. Of those that survived the first 24 hours, 79% of our patients were successfully rehabilitated.

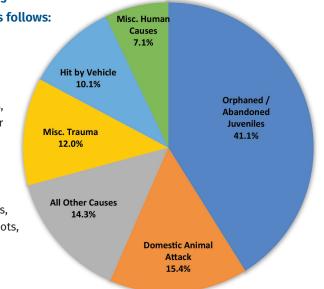
We have created some charts and images to illustrate our patient intake for 2016—which was a very busy year that included moving into our new facility.

792

Clarification of the classifications illustrated in the pie chart are as follows:

- Domestic Animal Attack 68% cat attacks, 32% dog attacks
- Miscellaneous Trauma Unconfirmed hit-by-vehicle events, cat attacks, predator attacks, other
- Miscellaneous Human Causes Accidentally trapped animals in garden netting, glue traps, etc.
- All Other Causes -

Window strikes, infectious diseases, fishing line/hook, toxicities, gunshots, electrocutions



Another way to examine our successful year is to look at the types of patients we received.

48% Birds

120 Raptors 448 songbirds

- 224 Doves, waterbirds, gamebirds, and others
- --> representing 72 species



47% Mammals

241 Eastern Cottontails
183 Virginia Opossums
92 Eastern Gray Squirrels
245 Foxes, Bats, Raccoons, and others
--> representing 22 species

5% Reptiles & Amphibians

86

71 Turtles 11 Snakes 4 Frogs and others --> representing 12 species

9

BRWC Thanks Lead Donors

By Franny Crawford | Photos by Tricia Booker



Danielle Bradley, Ron Bradley, and Wendy Smith.

On December 9, 2016, the Ronald M. Bradley Learning Center was officially dedicated during a ceremony in the new Blue Ridge Wildlife Center facility, which supports not only rescue and rehabilitation rooms for our native wildlife, but also a complete surgical suite, as one of only two full-service wildlife hospitals in Virginia. The event was a special time to thank significant donors to the building project and to establish the *Society of Wildlife Guardians*.

Almost 60 people gathered for food and libation as Ron Bradley, of Millwood, talked about his love of wildlife and of education, both of which compelled him to sponsor the space for educational programs for children, families and adults. In fact, the new Ronald M. Bradley Learning Center creates an opportunity for the Center to expand educational programming. In 2016 the staff presented more than 80 school, civic and special event programs for the public. The Center was also able to expand its summer camp schedule to six one-week camps for young campers. Plans are now underway to expand classroom offerings to cover more topics for the community.

The staff and Board members also thanked supporters of the new Wildlife Walk, scheduled to open this summer. This outdoor structure will extend the educational opportunities for the communities the BRWC serves. The facility will include Raptor Hill, a handicapaccessible observation deck, to view our education raptors up close and will overlook the wildlife walk to view other education animals.

Board Member and Development Chairman Andrew "Andy" U. Ferrari also announced the creation of an annual giving program called the *Society of Wildlife Guardians*, established to honor those who take a leadership role in helping to save our native wildlife through their significant, annual gifts to the Center. With the new facility, wildlife hospital and Wildlife Walk, the Center and all its wildlife guardians will work to **ensure the** *future of our region's native wildlife* by providing the resources to support the highest-quality care and best educational programs possible.

For further information about the *Society of Wildlife Guardians*, please contact Franny Crawford at (540) 550-3057.

RENDERING BY SHERRY I. WISH

Wildlife Walk and Raptor Hill opening Summer 2017



Andy Ferrari.



Jean Perin and Nina Fout.



Hillary Davidson and Michael Morency.

Our Future is in the Hands of the Society of Wildlife Guardians

We want our children and grandchildren to uphold the sacred trust they will inherit to preserve and protect our native wildlife.

The Blue Ridge Wildlife Center embraces the compelling mission of ensuring the future of our native wildlife through rescue, rehabilitation, research, and education. Those who are concerned for the biodiversity of our region, and who call this magnificent region home, also share an affinity for preserving and protecting our native wildlife. We are the guardians of the creatures who roam our woods, trails, parks, and mountains.

As ours is such a critical mission in today's world of diminishing open spaces, the Center announces the creation of a new leadership annual giving society, called the *Society of Wildlife Guardians*. Annual gifts to the Society will provide on-going support required for the Center to offer exemplary animal rescue and rehabilitation care and help underwrite our expanding educational programming.

The Center Needs Your Help

Please consider becoming a Leadership Member of the *Society of Wildlife Guardians* by joining the Bald Eagle Circle (\$10,000) or Great Horned Owl Circle (\$5,000). With your annual leadership as a Wildlife Guardian, you will have the satisfaction of creating a core of generous donors who are dedicated to the well-being of our native wildlife. The Leadership Circles of our *Society of Wildlife Guardians* will be invited to a special presentation or reception each year and have access to special events. *Owl photo by Rick Foster.*



•]	LEADERSHIP	CIRCLES •
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BALD EAGLE	\$10,000
GREAT HORNED OWL	\$5,000

Additional

• Society of Wildlife Guardians •

Bobcat	CIRCLES	CLES \$2,500	
Red Fox		\$1,000	
Blue Bird		\$500	
Наwк		\$250	
Box Turtle		\$125	
Hummingbird		UNDER \$125	



BRWC HOTLINE: 540.837.9000 | www.blueridgewildlifectr.org | info@blueridgewildlifectr.org

Our outdoor enclosures and flight cages for mammals and birds are in use all year long—withstanding rains, heavy snows and unrelenting winds. They require frequent maintenance to make sure they are safe and sturdy for our wildlife patients.

TAIL END

Our larger raptors (e.g. Bald Eagles, Red-tailed Hawks, Great Horned Owls) typically require several different levels of flight exercise before release. The denouement of their release plan is time spent in our circular flight cage—the only such exercise space in Northern Virginia. After 10 years of heavy use and standard maintenance, we will be upgrading the roof of our large circular flight cage! This improvement will address areas of weakening and make cleaning more efficient for our staff. These upgrades will minimize the animal exposure to humans and reduce the effort to capture the animal for health checks and release, thereby improving their success after release.

