Wildlife Rehabilitators of North Carolina

FALL 2012

ISSUE 48, SEPTEMBER 2012

Message from the President

Greetings again, Members and Friends….Most rehabilitators have a lull in their schedule as one season winds down, before gearing up for another busy season.....This is the perfect time to sit down and evaluate your own strengths and weaknesses as a wildlife rehabilitator. Major companies do exercises like this with their employees regularly - why can't we as a profession? In the long run, it will make us better at what we love to do.

Figure out what you really enjoy doing most, and why. Have you gotten good at it and feel comfortable with that technique, species, treatment, etc? You have had a lot of practice, and now it shows. Now you may be able to teach another new rehabilitator. Think about it!

[This is a key concept that new rehabbers need to learn - practice makes perfect, just like in any field!]

Now, what do you hate doing - dealing with a particular type of animal or an aspect of medical care that makes you uncomfortable? Maybe you have not done a lot of that before or consistently. We all have to relearn each season if we only do it once a year - refreshing your memory is the smart thing to do; go back and re-read your training manual and care notes, to make sure you remember all the aspects of care for that animal or situation. Even the "old" rehabbers do this; (and no, NOT because our memories are going!, well maybe they are ...)

Take this time, during the lull to practice some of the skills you are rusty on, or learn a new technique. Sit down and read, search the internet, pick up the phone and call a fellow WRNC member, find out who has what bodies in their freezer (and yes, we all do!) to practice with....Familiarizing yourself with anatomy will help you with bandaging and physical therapy. Practice giving SQ injections with cadavers while they are lying still and cooperating. Nothing is easier than gaining the skill and practice while they are NOT trying to get away or biting you! You will soon see your speed pick up and your confidence level rise if you practice on the non-living patients. Think how prepared you'll be for when you next deal with a living patient requiring those skills and care.

And finally, start looking around for more formal training opportunities—practical labs available in conferences and symposia. **The WRNC symposium is held yearly the last weekend in January at the NC State Vet School , Raleigh, NC and is an excellent place to renew friendships, make lasting network contacts, and learn new skills with experienced instructors working one-on-one with you.** Take advantage of this wonderful opportunity to pick the brains of other rehabilitators and learn those little tricks-of-the-trade and those little "AH HA!!" moments that make all the difference in saving time and trouble. Remember to check with your accountant - your symposium trip may also have the added benefit of being tax-deductible, too!

Toni O'Neil , WRNC President

Inside this issue:

Board Members

Do Birds Have a Sense of Smell? *by Jean Chamberlain*

How many times have you told a caller to put a baby bird back in the nest even though the caller has touched it? Birds have a poor or no sense of smell. Isn't that right? Well, I decided to find out what is actually known about the sense of smell in birds.

I found that the notion that birds can't smell has been around for a long time. I was surprised to learn though, that until recently scientists thought that even turkey vultures didn't have a good sense of smell. John James Audubon, the famous artist and naturalist, claimed to have demonstrated this in the early 1800's when he did an experiment involving hiding rotting carcasses for turkey vultures. The turkey vultures didn't seem to detect the odor and didn't find the carcasses. Audubon maintained that vultures use only sight for locating food. We know today that Audubon's experiment was flawed and his conclusion wrong. His experiment failed because vultures prefer fresh carcasses and avoid meat that is badly decomposed, plus it is thought he may have used black vultures instead of turkey vultures. [1]


Photo Courtesy of Creative Commons

In the past there was antidotal evidence that birds could smell, but it was ignored by most scientists. Tim Birkhead in his book, Bird Sense, gives several examples: Ravens were notorious for appearing at coffins. Blue tits were known to enter dairies to eat the cheese they smelt inside. Turkey vultures had been seen perching on a house with a body inside. Honeyguides found beeswax that they couldn't see. It was also known that leaks in natural gas lines attracted turkey vultures. The gas contains the same chemical (ethyl mercaptan) that is released from decaying bodies.

Birkhead relates that Betsy Bing, a medical illustrator, in the late 60's brought pressure on the scientific community to reconsider the accepted belief that birds had no sense of smell. She drew diagrams of the nasal cavities of many birds to illustrate articles on respiratory disease in birds. Her illustration showed that one chamber in the upper beak contained conchae (scrolls of leaf-like tissue containing the tiny cells that detect odor). She found large complex nasal cavities in turkey vultures, albatross (eat squid and whale carcasses) and the oilbird (a fruit eating, nocturnal bird that nests in dark caves).

The fact that birds had olfactory bulbs was further evidence that they could smell. Bing and Stanley Cobb went on to do a comparative study of the olfactory bulb size of over 100 species. On their scale kiwis were rated 34, turkey vultures 29, pigeons 20, shorebirds averaged 16, chickens were rated 15 and songbirds averaged 10. Researchers later confirmed that there is a correlation between bulb size and ability to detect odors. Many nocturnal and crepuscular birds have relatively large olfactory bulbs.

There is other evidence that birds have a well developed sense of smell. We now know that kiwis forage by sniffing and probing with their bills. They can detect meat hidden in tubes of dirt. They probe directly to the food. The woodcock is similar. It probes for worms. Albatross, petrels and shearwaters detect the odor of whale offal. They also find their breeding colony far across ocean waters using their sense of smell.

Birds use smell for more than finding food. A Spanish researcher has studied whether birds can detect the smell of predators.[2] He postulated that it would be particularly useful for cavity nesters to detect the odor of weasels or martens that had gotten into the nest or were approaching. He placed the scent of mustelids inside nest boxes of blue tits. He found that the parents did take longer to enter to feed their young at those nests and approached them more often without going inside.


Photo Courtesy of Creative Commons

Another research biologist in Spain discovered that when she removed nestling Eurasian roller chicks, they vomited, an action designed to repeal predators.[3] She studied the parent's reaction to the odor of its young (called the odor of fear). The parents took longer to re-enter the nest and fed less often when the odor was present.
It's now also been shown that some seabirds can distinguish relatives from non-relatives using

Do Birds Have a Sense of Smell? , continued

smell alone.[4] It is believed that this ability prevents inbreeding and allows the birds to smell suitable mates.
In addition to evidence from studies with bird behavior, there is genetic evidence of a well-developed sense of smell in birds.[5] The number of olfactory genes in a genome is thought to indicate the number different scents an animal can detect. Scientists have studied the chicken, where the full genomic sequence is now known, and several other species. They found that the number of functional genes correlates to the size of the olfactory bulb. The genome of the zebra finch for example includes 500 olfactory genes of which approximately 200 are active.

With all this evidence that birds have a good sense of smell and especially that they can detect predators, should we now stop re-nesting birds that have been touched by humans? I found a study looking at the success of American robin nests, where the chicks and eggs had been handled by researchers to be particularly helpful in answering this question. The researchers handled eggs and chicks in nests for 3 minutes every 1-3 days. They found that handling did not detrimentally affect the success rate of the chicks.[6]

Birds do have a well-developed sense of smell, but I don't think we need to stop advising people to put healthy nestlings back in the nest because they have been touched. We may want to change our explanation though, from 'birds have a poor sense of smell' to 'the parents will care for their young anyway'.

Photo Courtesy of www.funnyjunk.com

Literature Cited:

1) Burkhead,Tim, 2012, Bird Sense What It's Like to Be a Bird, Walker & Company

2) PLATAFORMA SINC. "Birds Can Detect Predators Using Smell." *ScienceDaily*, 28 Apr. 2008. Web. 4 Sep. 2012.

3) Natalie Angier, August 13, 2012, The Smell of Fear (No Tweets Necessary)

4) Victoria Gill, 19 July 2012, Storm petrel seabirds can smell their relatives, BBC Nature News

5) Max-Planck-Gesellschaft. "Birds Have A Good Sense Of Smell." *ScienceDaily*, 16 Jul. 2008. Web. 4 Sep. 2012.

6) Ortega, Catherine P., Ortega, Joseph C., Rapp, Cristin A., Vorisek, Shawchyi, Backensto, Stacia A., and Palmer, Donald W., Effect of Research Activity on the Success of American Robin Nests, The Journal of Wildlife Management, Vol 61, No. 3 (Jul., 1997), pp. 948-952, Allen Press

DID YOU KNOW...That September 1st is International Vulture Appreciation Day?!?

Radiographic Progress—A Case Study by Dr. David Scott, DVM

A hatch-year Great-Horned Owl was admitted to the Carolina Raptor Center on September 25, 2011 from Halifax county. It had an open wound over its ulna and radius and it was clear that both bones were fractured. In addition, both retinas showed evidence of recent trauma. Radiographs confirmed the fractures and the bird was stabilized in preparation for surgery the next day.

Figure 1 - The pre-operative radiograph

The bird was pre-medicated with butorphanol, intubated and anesthesia was maintained with isoflurane. A dorsal approach was used and the existing wound was enlarged. The ulna fracture was quickly identified. An intramedullary (IM) pin was placed into the ulna from the elbow and advanced towards the fracture. The bone ends were aligned and the pin was driven across the fracture. The wound was flushed and the skin sutured closed.

A separate incision was made over the radius fracture. Another IM pin was used but this one was driven from the fracture to exit out at the wrist. The bone ends were aligned and the pin was then driven backwards across the fracture towards the elbow. The wound was also sutured closed.

At this point, the fracture was reduced, stable and aligned. It could resist bending forces but could not withstand any rotation that may be induced when the wing is extended. Because of this, two separate cross pins were placed in the ulna perpendicular to the IM pin. An intraoperative radiograph was then taken to confirm that everything looked good.

The pins were then all bent and tied into a rigid sidebar with a special plastic material called veterinary thermoplastic (VTP). Recovery after surgery was quick.

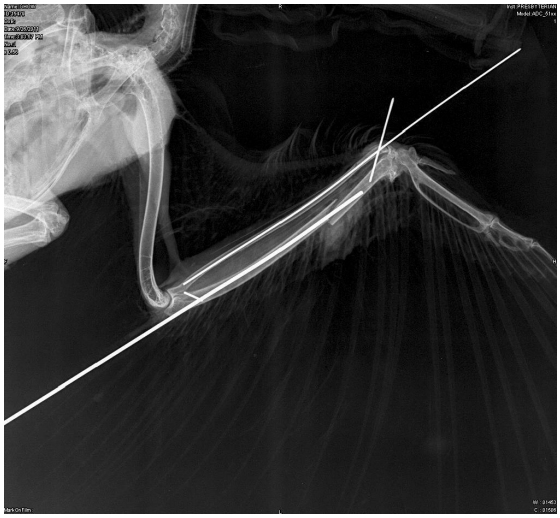


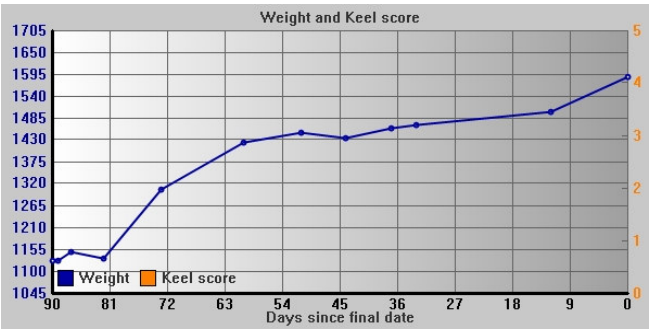
Figure 2 - The intra-operative radiograph

Figure 3 - The external sidebar made with VTP. The elbow is to the left and the large IM pin can be seen exiting the bone.

This bird did remarkably well after surgery. She ate well and gained weight (maybe too much weight!).

Radiographic Progress—A Case Study, continued

Figure 4 -Weight chart



Her physical therapy (PT) went very well and we were able to stop it completely much sooner than is typical. She began flying short distances in less than 3 weeks and all implants were removed by 5 weeks.

Figure 5 - The healed fracture right before the implants were removed.

Luckily, her eye damage also resolved completely and she was released on Christmas Eve, exactly 90 days from admission. This was a great case for many reasons. Combination ulna/radius fractures often result in severe soft tissue injury to the muscles and tendons in the affected area. This usually results in a prolonged healing process and the need for long-term PT. This bird healed remarkably fast and required much less PT than is typically needed. The fact that she was flying so quickly after surgery is also impressive and the fact that the relatively significant damage to her eyes resolved was also a very pleasant surprise.

CONGRATULATIONS TO THE REHABILITATION STAFF AND VOLUNTEERS AT THE CAROLINA RAPTOR CENTER FOR ANOTHER GREAT SUCCESS STORY!!!

Have a success story or case study you'd like to share with us, let us know!

Beginner Basics by Toni O'Neil

Remember that no matter how cute it looks, or how easy it is to do, you should never let your small mammals and/or birds that are being cared for roam loose in the area that you rehabilitate in or your personal living area as a form of exercise.

There are several reasons:
1. An animal could come in direct contact with another animal that is caged and could easily reach through the bars and injure the free roaming one, or vice versa.

2. Direct contact of disease transmission.... from either one to the other. This is a health issue, not just for the caged animal but for possible zoonotic disease as well.

3. Sanitation - the free roamer can leave fecal deposits everywhere, and urinate on top of the other cages. Would you wish to see a youngster just learning how to feed itself pick up and eat something that is not wholesome? Again, a great way to spread disease throughout your rehabilitation area or home.

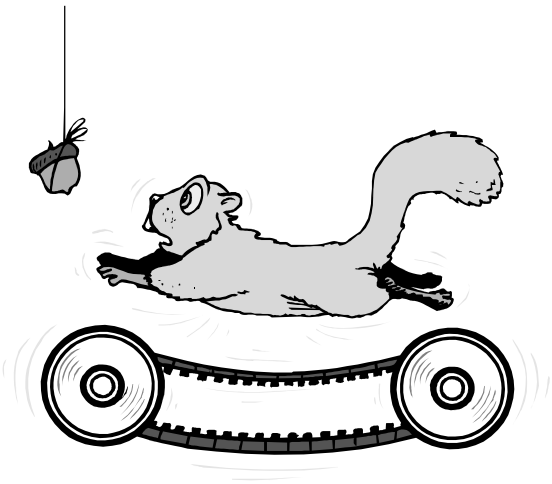
4. What happens if the animal is spooked by a loud noise, the telephone, or an unexpected visitor? Dashing madly to safety could result in an injury or possible broken neck from flying into a window while panicking.

5. "Self-release" is a term that means an animal escapes before it was supposed to be or ready to be released. This can happen if the door is left open or when a visitor enters your care area, and un-caged animals take advantage of the road to freedom before their time. Would they survive? Or will they die because they are still unable to care for themselves in the wild.

6. Many places have uninvited guests in their facilities with the occasional mouse - and the trap placed out to rid the area of vermin may accidentally catch your free roamer. Sticky fly paper hanging from the ceiling can catch and entangle your free flying birds, causing feather loss or strained shoulders/wing injuries from trying to pull free.

You need to provide adequate exercise areas, either inside or outside, temporarily or as part of the pre-release conditioning where they remain outside until proper release.

Don't take short cuts with the animals in your care. You as the rehabilitator are responsible for their welfare at all stages of their rehabilitation. You are ensuring that they will go on to be released and have the best chance of survival once they are on their own in the wild. Do the right thing - their lives depend upon it!



IWRC/NWRA Minimum Standards Updated *by Halley D Buckanoff*

In 1989 the National Wildlife Rehabilitation Association (NWRA) in conjunction with the International Wildlife Rehabilitation Council (IWRC) published the first edition of the *Minimum Standards for Wildlife Rehabilitation*. This document was created with the help of many dedicated, knowledgeable, trained and experienced wildlife rehabilitators to be used as a guideline for the wildlife rehabilitation community. It was meant to be a living document and evolve with the ever-growing understanding about the needs of our native wildlife while in captive care and/or convalescing.

The publication is comprised of information on veterinary policies, species specific housing, disease control, record keeping and reporting, as well as euthanasia. It includes The Wildlife Rehabilitator's Code of Ethics . And, the third edition, printed in 2000, is used by the United States Fish and Wildlife agency for avian rehabilitation permit regulations. While North Carolina has it's own requirements for the care of mammals, many states agencies have also adapted the *Minimum Standards* for permitting regulations within their given states.

"The Minimum Standards for Wildlife Rehabilitation, is based on accepted norms in biology, medicine, behavior, natural history, and, of course, wildlife rehabilitation. The information in the publication pertain to all who rehabilitate wildlife, regardless of numbers and types of wildlife cared for, budget size, number of paid or volunteer staff, and size and location of activity" (NWRA)

This year, *Minimum Standards for Wildlife Rehabilitation* has come out with its 4th edition. Changes include but are not limited to the addition of sections on "Minimum Basic Knowledge for Wildlife Rehabilitators", "Basic Cleaning Techniques", and "Unacceptable Methods for Euthanasia". But probably the section with the most relevant changes to the majority of rehabilitators, at least in North Carolina, are the minimum caging requirements for housing mammals.

Recommendations for pre-release enclosures for healthy animals, with no restrictions, have increased for many small mammals, including but not limited to some of our more commonly rehabilitated species:

- Tree Squirrels, previously 4' wide x 4' long x 8' high and are now 8' wide x 8' long x 8' high.
- Opossums, previously 4' wide x 4' long x 8' high and are now 10' wide x 12' long x 12' high

Currently, the North Carolina Wildlife Resources Commissions requirements for housing these species are:

- Tree Squirrels, 4' wide x 2' long x 2' high
- Opossums, 6' wide x 3' long x 3' high

However, WRNC asks that Cage Grant recipients attempt to meet or exceed IWRC/NWRA Minimum Standards in constructing cages with grant funds.


Photo Courtesy of H D Buckanoff

As our information and understanding of our native species and their needs grows so to may the requirements for housing and caring for them; it may be good practice to utilize the *Minimum Standards for Wildlife Rehabilitation* and the knowledge, research and experience that went into coming up with the principles held within. Why reinvent the wheel?

To obtain a copy of *Minimum Standards for Wildlife Rehabilitation:*
visit one of the contributing organization's websites at: www.theiwrc.org and/or www.nwrawildlife.org

Call of the Wild—Turtles on the move by Mary Gold

In the spring male turtles seek mates and their own territory. Then females look for places to lay eggs. In late summer and early fall, eggs hatch and the young emerge looking for water. Before winter, turtles look for a place to hibernate. These simple acts of survival create wildlife calls year-round.

"A TURTLE IS DIGGING IN MY YARD"--Congratulate the caller on the turtle selecting their yard. Tell them to bring in the dogs and watch the 90-minute egg-laying process. Do not try to prevent the turtle from laying her eggs. LEAVE THE NEST ALO NE! The mother selected the spot and built this nest with instinct passed on for millions of years. The mother never sees her young and the young never see their mother. Do not use pesticides or fertilizers near the nest. Do not touch or rotate the eggs.

HELPING A TURTLE SAFELY CROSS THE ROAD takes only a few minutes of our day and helps the slow turtle who cannot hear a car. Remember to BE CAUTIOUS of other drivers when doing this.

MOVING A TURTLE. If it is hurt, take it to a veterinarian or wildlife center. Grasp its shell behind the front legs to pick it up. Stay clear of its head when handling and do not over-handle. DO NOT PICK A TURTLE UP BY ITS TAIL – this can cause severe injury. Do not hold a turtle upside down, they can not breath on their backs.Hold the turtle low to the ground as you move it so it will not fall far if it wiggles free. Keep the turtle going in the direction it was heading--NEVER TURN THEM AROUND! SNAPPING TURTLES can be aggressive. Nudge them across the road from behind with a blunt object (I use an old bamboo tray).

DO NOT RELOCATE TURTLES. Many have "home ranges". If relocated, they may try to return home. When they cannot find their way back, they can stop eating and wander until they die.

AN INJURED TURTLE IN THE ROAD may be alive even though it looks dead--an expert needs to examine it. A found mother may be carrying eggs that can be saved even if she cannot. Take a turtle that has been severely injured to a rescue center to save it hours of suffering and dying in the hot sun.

TRANSPORT injured turtles in a cool, dark box covered with a damp towel (cloth or paper). Do NOT transport in water—it can drown. Use latex gloves if you have them. If not, wash yourself with a hand sanitizer.

It is fun to EDUCATE A CALLER about the wonders of the turtle. This creature was here before the dinosaur (over 200 million years ago) and has propagated their species strictly by instinct—while carrying their house on their back.

Photo Courtesy:
H D Buckanoff

Reference:

American Tortoise Rescue. (n.d.). Retrieved from tortoise.com.

Turtle Rescue League - Keeping Turtles a Part of our Future. (n.d.). Retrieved from turtlerescueleague.com.

Turtle Rescue of Long Island. (n.d.). Retrieved from turtlerescues.com.

Members in the News

Help for Injured Wildlife In North Carolina by Stephanie Carroll Carson
Blue Ridge Institute in Banner Elk and Western North Carolina Nature Center in Asheville were featured in a Public News Service Article
http://www.publicnewsservice.org/index.php?/content/article/27633-2

Congratulations to the NC Zoo's Valerie H. Schindler Wildlife Rehabilitation Center for winning the International Wildlife Rehabilitation Council's Photo Contest in the category of releases for the picture titled "Swift Release" taken by Tammy Greevers.

Have you been featured in the news lately? Let Nicki and Halley know – and we'll include a link in the next newsletter!!

Wildlife Rehabilitation List-Serves

Did you know that there are several wildlife rehabilitation list serves and a wildlife disease digest available for you to join (for free) - these are excellent resources that allow networking and information sharing.

You can ask questions, respond either on or off the lists to others inquiries, and network with your fellow rehabilitators throughout the country. This can be a valuable way to make new contacts, and learn new tips and techniques, as well as find out about facilities you may want to visit in the future.

To join e-mail:

Wildlife Disease News Digest: digest@wdin.org

Raptor Rehabilitation: raptorcare@yahoogroups.com

Wildlife Rehabilitation: wlrehab@yahoogroups.com

Creature Feature –American Crow by Tammy Greevers

American Crow, *Corvus brachyrhynchos* literally means "short-billed crow." Crows, natives to North Carolina, are an extremely social, as well as an intelligent, group of birds.

HABITAT AND RANGE. American crows are found throughout all of the United States with their upper and lower ranges pushing into Canada and Mexico respectively. Crows prefer open spaces with a few trees dispersed throughout for roosting. This preference allows crows to thrive in human created habitats, including parks, farmlands, and landfills.

DESCRIPTION. The largest of the passerines, American crows are completely black with thick, straight beaks. They weigh approximately one pound with a wingspan of about 39 inches. American crows are born with blue eyes that change to a dark brown sometime during fledging.

VOCALIZATIONS. Each American crow has a distinct voice with two different dialects: loud caws for group signaling and softer, quieter caws, coos, rattles, and clicks for private conversations. American crows have over 150 unique calls.

DIET. American Crows are opportunistic omnivores. They forage from the ground and eat a wide range of food items including grains, seeds, fruits, nuts, small rodents, insects, and sometimes chicks of smaller birds.

REPRODUCTION. American crows form monogamous pairs and have a cooperative style of breeding. The extended family help the mating pair care for new young. Many may spend up to five years with their family group. Both the male and female help with nest construction. The female incubates 4-5 eggs for 18 days and may have up to two broods per breeding season. All members of the family group help protect the nest and nourish the young birds. Nestlings remain in the nest anywhere from 20-40 days, but upon fledgling the family group will continue to care for them for up to four months.

LONGEVITY. The lifespan of an American crow is usually between 7 and 8 years, but has been recorded up to 16 years. However, susceptible to predation, mostly by hawks, less than 50% of crows survive their first year.

INTERESTING FACTS.
1. Crows are problem solvers. American crows strategically drop walnuts at specific heights in order to crack the nut, but not shatter it on the road. Along with this behavior, they have learned to wait for traffic signals to turn red before dropping their nuts.
2. The *Corvus* genus contains around 40 species, which are dispersed throughout every continent except Antarctica.

REHABILITATION CONSIDERATIONS.
1. American crows are highly sensitive to West Nile Virus, usually succumbing to the disease within one week of infection. Infection is directly transferred between birds, so if WNV is prevalent in your area, isolating new birds for a few days is a good idea in case they are asymptomatic.
2. Always raise American crows with other American crows. Much crucial learning takes place within the first few months of their lives largely through observation of others within their social group. American crows that do not learn the skills and customs of their species may be rejected. Placing birds with a surrogate parent is the best option for rehabilitation.

Works Cited (MLA style)
"American Crow." *All About Birds*. Cornell University, 2011. Web. 1 Sept. 2012. <http://www.allaboutbirds.org/guide/American_Crow/id>.

Fleming, Susan, dir. *Nature: A Murder of Crows*. 2011. PBS. DVD-ROM.

Gage, Laurie J., and Rebecca S. Duerr. *Hand-Rearing Birds*. Ames: Blackwell, 2007. 361-75.

Submit, questions, comments, and articles to:
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Calendar of Events

- **Carolina Raptor Center**
  Raptor Rehabilitation Seminars
  October 20-21, 2012
  http://www.carolinaraptorcenter.org/rehabilitation/rrseminar
- **Wildlife Center of Virginia**
  Call of the Wild Conference
  November 10-11, 2012
  http://www.wildlifecenter.org/wp/rehabilitator-training/call-of-the-wild-conference/
- **International Wildlife Rehabilitation Council**
  Symposium
  November 14-17, 2012
  Appleton, Wisconsin
  http://theiwrc.org/symposium/2012-symposium
- **International Wildlife Rehabilitation Council**
  Continuing Education, Online Courses
  http://theiwrc.org/continuing-education/online-training

Visit us on the web: www.ncwildliferehab.org
Follow us on Facebook: www.facebook.com/wrnc

Announcements

The **Nominating Committee** would like to remind everyone that it is time now to start thinking about nominating potential new candidates for the Board of Directors.

The nominee must be a member of WRNC in good standing who lives in North Carolina. He/she must be willing to commit to the requirements that all board members must meet: able to participate in the annual symposium, attend the symposium board meeting, and participate in three board meetings (via telephone conference) throughout the year. Board members must also serve on at least two committees and be active participants.

Please send the name of the person you would like to nominate to Toni O'Neil or Linda Bergman, the co-chairs of the Nominating Committee. Make sure you have asked the person if he or she is willing to be nominated first, though!

The nominating committee will then start the procedures by sending out the information form required of the nominee, and follow up by checking the references listed before placing the nominee's name on the ballot. Voting for new board members is always done during the symposium banquet by the attendees, and the names of the newly elected board members will be announced at that time.

Do You have a Wildlife Health Event Observation to Report? - Sign up for a WHER account at http://www.wher.org and add your own sightings to those that have already been contributed. To date, over 4,000 reports have been entered or imported into WHER. In less than 2 minutes, you can create an account. Take another 5 minutes and enter a report that will contribute to a greater understanding of wildlife disease phenomena.