

NEWSLETTER FOR WILDLIFE REHABILITATORS OF NORTH CAROLINA

A quarterly newsletter produced by the Wildlife Rehabilitators of North Carolina (WRNC). WRNC's mission is to share information and knowledge about wildlife rehabilitation for the benefit of native wildlife. For comments or questions, write to: WRNC, 2542 Weymoth Rd, Winston-Salem, NC 27103.

Volume 14

Autumn 2003

Continuing Education

The Wildlife Medicine Seminar for vets and vet techs is to be held on Nov 22nd at Lees McRae College. See the notice on page 7 for details.

Symposium

Our second annual WRNC Symposium will be held in Asheboro: SATURDAY January 31st – SUNDAY February 1st. Information and the registration form are on page 9.

Hope to see you all there!

Disclaimer

The opinions, techniques, and recommendations expressed in the articles of this newsletter are those of the author(s) and do not imply endorsement by WRNC.

Regional Meeting Updates

By Jean Chamberlain

We held three regional meetings this year. The Western meeting was in the spring, hosted by Ed and Mary Weiss in Asheville. The Central, organized by Carla Johnson, was held during the summer in Winston-Salem. The Eastern was in the fall at OWLS in Newport. Linda Bergman organized it. At each we had a discussion on last year's symposium and got many ideas for the upcoming one. There was also an education presentation at each meeting. All of the speakers did a great job. Carla's educational raptors fit right in on the Weiss's mountain (the crows didn't think so). Several cottontail rehabilitators had a great exchange of ideas on cottontail care at the Central meeting. We all marveled at the facility at OWLS and Stephanie had many tips on waterfowl care. Thanks to all the hosts and organizers who did such a fine job providing these opportunities to share ideas with fellow rehabilitators.

Rehabilitator Training

by WRNC Board

More than 900 people have permits to care for wildlife in North Carolina. In North Carolina a resident can get a permit to rehabilitate wildlife without any knowledge of how to care for the animals. The WRNC board feels this policy is a disservice to the animals and should be changed. We have proposed to the North Carolina Wildlife Resource Commission that training be required to obtain a rehabilitation permit starting in 2005. Rehabilitators need to be sufficiently trained to recognize the species, to know the food and medical care that is appropriate, as well as, the type of caging and pre-release preparation. They should also be aware of the zoonotic diseases these animals carry. When the public turns an animal over to a rehabilitator, they rightfully expect that the rehabilitator has been trained to provide the animal with proper care.

WRNC is committed to making training available to the rehabilitation community. It has commenced the development of a half-day refresher course to offer to all current rehabilitators. This course would be available for the first time at the next symposium. We plan to bring the course to various locations throughout the state next year. Since we firmly believe that all rehabilitators should have this basic training, it is our intent to provide the training regardless of the outcome of our proposal.

WRNC has offered to prepare a full two-day training course for new rehabilitators this coming year. Carla Johnson has volunteered to coordinate this training. We are seeking volunteers who would like to help in either the preparation or the teaching of the course. We will begin preparing the course outline in the spring. Anyone who is interested in helping prepare or teach the course please contact Carla Johnson.

Rehabilitate Rabies Vector Species

by RVS Committee

Early this year the Rabies Vector Species Committee met with Dr. David Cobb of the North Carolina Wildlife Resource Commission to learn their procedure for instituting policy changes. We wished to propose a change to the rabies vector species (RVS) policy. We were advised that a proposal should be submitted to the state of NC by the end of June to be considered for this year's review process. The committee wrote a proposal, which was approved by the board and submitted at the end of June. The proposal seeks to implement a program where a special permit would be issued to allow the rehabilitation of rabies vector species.

We proposed the following requirements to be met by an applicant to obtain a RVS permit:

- Attend an intensive RVS training workshop
- Receive pre-exposure rabies vaccination series
- Have appropriate facilities that provide confinement with a double barrier
- Obtain the support of a licensed vet who is willing to euthanize sick animals

Under this program rehabilitators will not only be able to care for the animals but also help insure that people who have potential exposure are properly referred for medical care. Rehabilitators will assist with public health and safety.

The WRNC board is hopeful that North Carolina will approve the proposal. If it is approved, WRNC has offered to help implement the program by organizing the training workshop. WRNC also offered to prepare a RVS procedure manual and the documents necessary to administer the program.

PHYSICAL EXAMINATION OF A RAPTOR

(Part one of two)

by Mathias Engelmann, Carolina Raptor Center

A brief and complete physical examination is absolutely essential for a successful raptor rehabilitation program. The findings of the exam, in conjunction with the history of the bird, any behavioral observations, radiographs, and laboratory test results, will determine how best to treat each patient. With practice, a thorough physical examination can be performed in ten minutes.

INTRODUCTION

- Be methodical in your approach. Develop a routine and follow it during each physical examination. Without such a routine it is easy to overlook or skip important steps.
- Use a standardized pre-printed form to “assist” your memory and provide a convenient and time saving way to record your findings.
- Learn by observing others and by practicing on dead specimens. It is very important to become familiar with the normal anatomy, the coloration of various tissues, and the movement and extension of joints. Using a live bird is not a good way to practice an examination for the first time!
- *Throughout this physical exam overview, restraint tips are in italics.*

PREPARATIONS

- Chose an appropriate examination area. It should be a quiet area, without distractions such as phones ringing and people walking in and out. You need to be able to darken the room during a portion of the eye examination.
- Prepare all supplies needed for the examination ahead of time. This includes an examination table with towel, rubbing alcohol, your pre-printed form on a clipboard, pencil, an ophthalmoscope, leather handling gloves, a hood or small towel to cover the head of the bird, and a good overhead light source.
- *Ideally a second person should be present to restrain the bird. Communicate with your teammate before and during the procedure. This is particularly important during the hand-off of the legs from one person to the other.*
- Prepare common treatment supplies such as injections, topical medications, systemic antibiotics, fluids, and wound care products including gauze, sterile instruments, wound cleaning solutions, bandage material, and tape. Alternatively, reduce actual handling time by working in a familiar treatment area where common supplies are easily reached from the exam table.
- Prepare a clean kennel or incubator for the new arrival. It is good practice to always have a variety of clean indoor housing options, lined with newspaper or towels, prepared ahead of time.
- Optional supplies and procedures that may be used during the initial examination are a tail wrap, basic blood work, and radiographs.
- Obtain a history of the bird, if possible, including the circumstances in which it was found, how long ago, and any care given to the bird.
- Determine the size of the bird and the species. This will influence the type of gloves to use, how easily the bird will stress, and consequently the length of examination.
- Note the bird’s behavior and stress level while it is still in the transport container and adjust the examination length and procedure accordingly. The procedure should be abbreviated for a highly stressed bird.

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WEIGH & OBSERVE

- Observe the bird for any unusual behavior
 - Is it standing or lying down?
 - Is the bird alert and following movement? Is the head held upright, tilted, or turning from side to side continuously?
 - What is its breathing pattern and are any noises made during breathing?
 - Always take into account the normal behavior of the species. Eastern screech owls may hide in the corner of a box and appear to be lethargic. Barn owls will lower and shake their heads as a defensive movement. They will also scream once disturbed or handled, often an indication that they are alert and fairly healthy; very sick or weak barn owl will usually not scream. Red-tailed hawks may fall on their backs and present their feet when approached.
- Weigh the bird to the nearest gram and record the weight.
- Evaluate the stress level during the examination. *Cover the head during the majority of the procedure, reduce movements, and provide a quiet environment.* The examiner will be occupied with checking the bird closely. It is the responsibility of the handler or any assistants to monitor the bird for signs of stress and communicate problems to the examiner.

EYES

- The eyes should be examined early during the procedure, so that their responses to light and movement will not be masked by excessive stress. The head can then be covered, to reduce visual stimuli.
- Evaluate the eyes for any signs of trauma, starting with the eyelids and the area immediately around the eyes. A penlight can be used to examine the lids, check for response to light, and illuminate the front portion or anterior chamber of the eye. A complete examination should include an internal examination of the rear portion or posterior chamber, using an ophthalmoscope.
- Examine all portions of the eyes, beginning with external features. The supra-orbital ridge, present in many hawk species, protrudes out and has a somewhat flexible connection.
- The upper and lower eyelids and the nictitating membrane, a semitransparent third lid, should be free of cuts and bruises. The nictitating membrane, in particular, reacts quickly to any attempts to touch the cornea, for example touch with a soft swab to remove soot.
- The cornea, the clear globe-like surface of the eye, is particularly noticeable in owls, because it is highly curved and projects forward, making it more vulnerable to injuries. Check it for abrasions, cloudy areas, and punctures.
- The anterior chamber is filled with clear liquid. Blood may accumulate here after injuries.
- The iris is the sometimes brightly colored muscular diaphragm, which constricts and dilates (see eye coloration chart). Reaction to light should be swift and even, with the pupil maintaining its round shape throughout.
- The lens, a soft, clear capsule used for focusing light, is usually only visible if it has been shifted out of position by an impact or if a cataract (cloudy spot) is forming within it.
- The posterior chamber is a large clear chamber behind the lens and iris.
- The retina appears pale gray to pink and may be striated or stippled.
- The pecten is a structure unique to birds and resembles a pleated worm or mountain range extending from the back of the eye forward. Bleeding due to trauma often originates here.

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EYE COLORATION BY SPECIES

Species	Juvenile	Adult female	Adult male
EASO		yellow to gr.-yellow for all	
BNOW		dark brown for all	
BDOW		dark brown for all	
GHOW		bright yellow for all	
OSPR	orange	yellow	yellow
BAEA	dark brown	pale yellow	pale yellow
TUVU		dark gray to brown in all	
BLVU		dark gray to brown in all	
AMKE		dark brown for all	
MERL		dark brown for all	
PEFA		dark brown for all	
NOHA	chocolate brown	brown	lemon yellow
MIKI	brown	red	red
SSHA	pale gray to yellow	orange to red	orange to red
COHA*	pale gray to yellow	orange to red	orange to red
BWHA	light gray/tan	brown	
RSHA	light gray/tan	brown	
RTHA**	light tan	dark chocolate brown	dark chocolate brown

* progression occurs faster in males than in females

** change begins at the ventral (lower) portion of the iris and progresses upward

HEAD & NECK

- Begin by examining the head visually and by feeling the surfaces of the skull for irregularities. Very little muscle tissue protects the skull. Part feathers with your fingers, gently blow on feathers to separate them, or apply small amounts of rubbing alcohol to allow a visual check of skin and underlying tissues. Note the normal coloration of tissues such as bone and muscle. Compare one side of the head with the other if you notice differences. Please note that in many owl species, the skull is asymmetrical due to the location of the ear openings.
- Bruising to the head may appear as purple or green discoloration to the soft tissues or to the bones themselves. The skull, like many of the bones of a bird, is pneumatized, filled with small air pockets. As a result of injury, blood can fill these air spaces.
- Locate the ear openings. In many owl species, the edge of the facial disk will serve as an indicator of where to look. In many diurnal species, the small ear openings are found just below and behind the eyes. Check for fresh, purple, or old, green, bruising, dried blood, and parasites such as hippoboscid flies, “flat flies”. Observe the appearance of the internal structure of the ear canal, especially the portion formed by the back of the eye. Damage to the posterior portion of the eye may sometimes be most noticeable from this vantage point. Excessive bleeding can occasionally fill the entire ear canal or result in an ear opening that is completely shut by feathers matted together by dried blood. Cotton swabs soaked with warm water or saline can be used to loosen debris and separate the feathers.
- Examine the cere or fleshy “nose” above the beak and the nares or external nostrils. Injuries to these structures are relatively common following collisions and can also be caused by improper housing such as wire cages. The coloration of the cere varies between species and is also influenced by the diet (see cere coloration chart). The nares can become clogged with soot or dried blood. Within the nares is a flesh-covered bone, operculum. Caution must be taken not to damage these tissues during examination or cleaning.

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CERE COLORATION

Diurnals

- Most hawks and accipiters – yellow or light green
- Falcons - varying shades of gray
- Bald Eagle - juveniles dark gray to black, sub-adults dark with yellow streaking, adults pale to bright yellow
- Osprey - dark gray/black
- Black vultures - dark gray to black
- Turkey vultures - juveniles gray, adults reddish pink

Nocturnals

- Great Horned owls - dark gray to black
- Barred owls – gray/brown with yellow or tan along the midline
- Barn owls - ivory to pinkish
- Eastern screech-owls - gray, tan, and even green

- *Restrain the head and carefully examine the mandible and the hinge-like jaw joint. Slight side-to-side movement of the upper and lower beak with respect to each other is normal due to the flexible nature of the bones themselves and the manner of attachment to the skull. The lower jaw can also be pulled forward slightly.*
- The surfaces of the beak should be smooth and without cracks or bumps. The hard keratinous beak material grows continuously in length and width. The coloration of the beak varies between species (see beak coloration chart). Check for signs of injury such as misalignment, a flaky appearance, an overgrown or thickened beak, and cracks or splits.

BEAK COLORATION

Diurnals

- Hawks & accipiters - gray to black
- Falcons - gray to black
- Bald Eagle - black to yellow (progresses with age)
- Osprey - black
- Black Vulture – grayish black
- Turkey Vulture – gray/black in juveniles, ivory in adults

Nocturnals

- Great horned owl - black
- Barred owl - yellow, tan
- Barn owl - pink
- Eastern screech owl - tan, green, or gray

- Open the mouth and check for signs of injuries or disease. The beak can be held open by inserting the thumb into the side of the mouth while cradling the skull firmly with the palm and fingers of the same hand. The mucous membranes should be moist and appear healthy pink in coloration in most species. Accipiters and kites are among the species that normally have dark blue mucous membranes. Small ridges and rows of spines are part of the normal anatomy of the roof of the mouth. Check for asymmetrical structures such as yellow lesions. The tongue is very mobile and extendable. It is often two-toned with a lighter tip. In cross-section, it can vary from slightly v-shaped to u-shaped (in vultures) and it has excellent blood supply. Some birds may bite their own tongue while stressed and such bleeding can often be stopped with light pressure using a cotton swab. Located in the roof of the mouth is the choana, the slit-like opening to the sinuses. At the base of the tongue is the glottis, the opening to the trachea.
- *Once the head has been examined, it should be covered with a light towel or a hood, to reduce visual stimuli and stress on the bird.*
- Quickly check the neck for abnormalities or injuries. The neck has a natural tendency to curve into an exaggerated S-shape unless the bird is anesthetized. The individual vertebrae can be felt readily since little muscle tissue covers them. By parting the feathers on each side of the neck, areas devoid of feathers called apteria can be exposed. Examine the trachea and esophagus running the length of

the neck. The right and left jugular veins also run the length of the neck and should be easily visualized. In diurnal species, the crop is located at the point where the neck enters the body cavity. A full crop in a red-tailed hawk can easily rival a baseball in size and may block view and access to the neck and shoulder area by its sheer size. Damage to an air sac may result in the buildup of air under the skin, called emphysema. White or yellow fat deposits can prevent visual examination of these structures, especially in the region between the clavicles.

Anatomical direction terms

Medial – towards the central axis (heart is medial to the ribs)

Lateral –away from the central axis (ribs are lateral to the heart)

Proximal – closer to the center of the body (elbow is proximal to the fingers)

Distal – further away from the center of the body (fingers are distal to the elbow)

Note that these terms only make sense when comparing to body parts to each other.

The heart can't be medial on its own.

**See part two of
Mathias' article in
the next newsletter**

Wildlife Medicine Seminar

sponsored by The Blue Ridge Wildlife Institute

Date: November 22, 2003

Time: 9am - 5pm

Place: Lees McRae College, Banner Elk, NC. At the Cannon Student Center Auditorium

CE Credits: 6 hours for Veterinarians and Veterinarian Technicians.

Certificates given upon completion of the course.

Course taught by:

Erica Miller, DVM

*Tri-state Bird Rescue and Research, Inc.,
Newark, Delaware*

Lee Bolt, DVM

*Sweeten Creek Animal & Bird Hospital,
Asheville, North Carolina*

Registration Fees:

Veterinarians- \$80

Veterinary Technicians- \$50

Veterinary Students- \$30

PLEASE ENCOURAGE YOUR VETS TO ATTEND THIS VERY IMPORTANT WORKSHOP!!

Contact: Nina Fischesser, Director

(828) 733-6142

wildcarebr@vistatech.net

Directory updates

Jean Chamberlain jchamberlain1@alltel.net (336) 983-6543
Sally Davis (919) 462-3249
Bobby Schopler director@piedmontwildlifecenter.org

Have you moved? Has your email address changed? Is your phone number listed incorrectly in the directory? Send updates to Carla Johnson at wildlifed2@aol.com

Board of Directors

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Committee Chairs
Membership: Carla Johnson

Housing Needed

The WRNC Symposium Committee is looking for a volunteer willing to house the symposium scholarship winner. We need a place for the winner to stay Friday and Saturday nights. If you are within an hours drive to the Asheboro area and are able to provide housing on one or both of these nights, please contact Jean Chamberlain at jchamberlain1@alltel.net.

Membership Renewal

It's time to renew your membership for 2004. The membership fee is \$20. Renew your membership and receive the reduced symposium rate.

WRNC's 2nd Annual Symposium

January 31 – February 1, 2004

WRNC invites rehabilitators and associated wildlife professionals to attend its 2nd Symposium. The Symposium will be held at the North Carolina Zoo's Education Center in Asheboro.

Fantastic Sessions:

Fluid Therapy	Wound Care	Physical Exams	Zoonosis
Quality of Life	Wildlife Education	Bandaging	& more

Tour the Zoo Rehab Center

Holiday Inn Express

A special discounted rate is offered for attendees at Holiday Inn Express. The symposium rate is \$55.50 per room for 2 people. Each additional person is \$6 with a maximum of 4 per room. Continental Breakfast is included. Specify that you are attending the NCWR Symposium. Attendees are responsible for making their own hotel reservations.

Refresher Training

WRNC's new half-day refresher training course will be offered for the first time at this symposium. This course is intended for current rehabilitators who want to bring their knowledge and skills up to date.

Icebreaker

Plan to attend the icebreaker Friday evening.

Fees:	By Jan 1	After Jan 1
Registration plus membership (including membership renewal for 2004)	\$60	\$65
Registration (membership for 2004 already paid)	\$40	\$45
Non-member registration	\$65	\$70

To register mail this completed form and your check to WRNC, c/o Carla Johnson, 2542 Weymoth Rd., Winston-Salem, NC 27103. The official date of your registration will be the day your payment is received. If you wish to qualify for "early bird" rates, payment must be received by the cut-off date of January 1, 2004.

Name <input style="width: 90%;" type="text"/>	Address <input style="width: 90%;" type="text"/>
City/Town <input style="width: 90%;" type="text"/>	State <input style="width: 30%;" type="text"/> Zip <input style="width: 30%;" type="text"/>
Phone <input style="width: 80%;" type="text"/>	E-mail <input style="width: 90%;" type="text"/>

Are you planning to attend the Icebreaker Friday evening? Yes No
 Would you like to take a tour of the Zoo Rehab Center? Yes No
 Are you likely to attend the half-day Wildlife Rehab Refresher Course? Yes No

 Are you also renewing your 2004 membership? Yes No

WRNC
2542 Weymoth Rd
Winston-Salem, NC 27103

ADDRESS CORRECTION REQUESTED