

## Carolina Raptor Center - GLOSSARY

1-2017

### A

<b>Absorbable</b>	Referring to suture material that degrades within a few weeks after being placed.
<b>Accipiter</b>	Genus of long-tailed woodland hawks with short, rounded wings, such as the Cooper's hawk and sharp-shinned hawk.
<b>AD</b>	Right ear
<b>After Hatching Year (AHY)</b>	An adult bird whose exact age cannot be determined by feather coloration.
<b>After Second Year (ASY)</b>	An adult bird, usually at least 18 months old, which has gone through at least two partial molts.
<b>Air Sacs</b>	Membrane-bound sacs in the body which increase the volume of air a bird is able to inhale and allow for one-way air flow.
<b>Alula (Bastard Wing)</b>	Several feathers protruding at the leading edge of the wing. They form a small wing and are used to prevent stalling at low flight speeds. These feathers are supported by the rudimentary thumb.
<b>Anisodactyl</b>	Describes the position of the toes on the foot found in many raptor species, three toes pointing forward and one backwards.
<b>Anorexia</b>	Prolonged loss of appetite.
<b>Anterior</b>	Towards the front.
<b>Anticoagulant</b>	Chemical additive such as Heparin or EDTA, designed to prevent blood from clotting; useful for certain blood tests that require un-clotted blood.
<b>Apteria</b>	Areas on the body of a bird devoid of feathers. Singular: apterium
<b>Aqueous or aqueous humor</b>	Clear liquid filling the anterior (front) chamber of eye.
<b>AROM</b>	Active range of motion such as flight cage training.
<b>AS</b>	Left ear
<b>AU</b>	Both ears
<b>Auriculars</b>	Feathers covering the ears.

### B

<b>BAR</b>	Bright, alert, responsive
<b>BID</b>	Twice a day.
<b>Bactericidal</b>	Ability of a chemical compound to kill bacteria
<b>Bacteriostatic</b>	Ability of a chemical compound to stop bacteria from multiplying without killing them.
<b>Band</b>	Special metal bracelet issued by the Bird Banding Laboratory, and fitted around a birds' leg as a permanent identification marker. Federal permit is required to obtain and apply bands. Rehabilitators and the general public should report sightings or recoveries by calling 1-800-

327-2263 (number is stamped on the newer bands) or emailing [bbl@usgs.gov](mailto:bbl@usgs.gov).

**Bilateral  
Blood Feather**

Referring to both limbs, organs, or sides.

A growing feather encased in a thin sheath, often blue in coloration due to the rich blood supply; if such a feather breaks, strong external bleeding and permanent damage to the feather can result.

**Bolus  
Branching**

Large amount of fluid administered over a short period.

Natural tendency of young owls to leave the nest, before they are capable of flying, and to perch on branches.

They are often seen on these branches in broad daylight.

The birds will often end up on the ground and start climbing trees using talons, beak and wings. At this stage in their lives the youngsters are often mistaken for orphans, when in fact the parents are still feeding and protecting their offspring until they are fully capable of flight.

**Brood patch**

Bare area on the chest and abdomen found during breeding season, usually in females, which do most of the incubation. The small feathers in the area fall out or are plucked and the skin becomes thickened and very vascular. Eggs and nestlings are now in closer contact with the incubating adult and body heat is transferred more readily.

**Buffy**

The light, creamy-colored layer of cells in the middle (above the PCV and below the serum) of the column of blood in a micro-hematocrit tube, after it has been spun down. This consists, primarily, of the white blood cells. It can be used as a very rough determination of the number of white cells in the blood, and therefore indicate whether a bird has an infection or not.

**Bumblefoot**

Generic term for infections of the feet; relatively common in captive diurnal raptors; usually the result of a combination of factors such as inadequate perches, improper diet, overweight bird, or injury to one foot, leg or toe.

**Buteo**

Genus of large, bulky hawks with broad wings and wide short tails, such as red-tailed hawks and red-shouldered hawk.

**C  
Caching**

Behavioral pattern of storing captured and killed prey in hiding places for later consumption.

**Callus**

Deposition of fibrous and/or bony material around a fracture site. After the initial healing phase, a callus may

	be “remodeled” for many months to achieve its final shape and size.
<b>Casting</b>	Any regurgitated material such as a pellet or partially digested food.
<b>Cataract</b>	Cloudy area in the lens of the eye, which can be caused by trauma and is often progressive, eventually leading to blindness.
<b>Cere</b>	Soft, fleshy, and often brightly colored area at the base of the maxilla (upper mandible?).
<b>Choanae</b>	Slit-like opening in the roof of the mouth; a connection to the sinuses, which allows the bird to breathe through the nares with its mouth closed.
<b>Cloaca</b>	Common chamber into which urinary, intestinal and genital tracts open.
<b>Clutch</b>	Group of eggs.
<b>Comminuted</b>	Description of a fracture in which bone is shattered into multiple pieces.
<b>Commissure of the mouth</b>	The fleshy corner at the back of the mouth, where the upper and lower beak meet.
<b>Compound</b>	Description of a fracture where skin is torn and the bone is exposed.
<b>Cones</b>	Light-sensitive cells in the retina, important for color vision and sharp images.
<b>Contralateral</b>	Referring to the opposing limb.
<b>Coping</b>	Process of trimming and shaping beak and talons.
<b>Coverts</b>	Small cover feathers on the wings, body, and tail.
<b>Cream</b>	Water-based topical medication.
<b>Crepuscular</b>	Active in the twilight.
<b>Crop</b>	Food storage chamber in the lower neck region: basically a portion of the esophagus that is very distensible and can accommodate a large amount of food; not found in owls.
<b>Culmen</b>	Bill length from the tip of the upper beak to the border of the cere and beak.
<b><u>D</u></b>	
<b>Debride</b>	To remove dead or dying tissue and foreign material from a wound.
<b>Display</b>	Behavior that serves to communicate a message (e.g., mating, threat, food begging, etc.); it is ritualized with movements or body postures being very characteristic.
<b>Distal</b>	Away from the midline of the body (See proximal).
<b>Diurnal</b>	Active during the day (See nocturnal).
<b>Dorsal</b>	On the back side (See ventral)
<b>Double clutching</b>	Removal of the first set of eggs to stimulate production of a second set; often done with endangered species to increase the number of young produced.

**Dysphagia**  
**Dyspnea**

Difficulty in swallowing.  
Labored breathing.

**E**

**EOD**

Every other day.

**Emaciation**

Starvation; common secondary problem in injured raptors and often fatal; apparent by checking the amount of muscle mass at the breastbone.

**Emargination**

Notching in outermost primaries.

**Etiology**

Cause of injury.

**Eyas**

Nestling bird, usually referring to a hawk or falcon.

**Eyrie**

Nest of a bird of prey, especially a diurnal raptor.

**Exudate**

Discharge produced by a wound, often pus or serum.

**F**

**Facial Disk**

Arrangement of feathers around each eye to form a funnel-like depression; aids in sound reception; typically found in all owls and some hawks.

**Falconry**

Ancient sport of hunting game with hawks and falcons which are trained to return to their master; still practiced in many parts of the world including North Carolina.

Federal and state licenses required.

**Fault Bar**

Area of weakness in a feather caused by stress during the growth of that feather, such as nutritional deficiency, excessive handling, or steroid use.

**Filoplumes**

Hair-like feathers on the facial area of most birds.

**Fledgling**

A young raptor leaving the nest, usually before it can sustain flight.

**Follicle**

The tissue that produces a feather.

**Fovea**

Area on the retina where the sharpest vision occurs; 1 or 2 foveas in each eye, depending on the species.

**Fratricide**

Phenomenon occurring in times of food shortages in wild nests; the older and usually much stronger sibling(s) will kill later-born smaller offspring.

**G**

**Gape**

Opening of the mouth by young during food begging to adults.

**Glottis**

Opening to the trachea and respiratory system, located just behind the base of the tongue.

**H**

**Hacking**

Process of placing young, non-flighted birds in an outdoor cage or artificial nest site and confining them until they are able to fly; the doors are opened at that point and birds return to be fed until independent; very

important technique for reintroduction projects, especially of endangered species, since sexually mature birds will often return to where they fledged or learned to fly, not to where they were born.

<b>Hallux</b>	The toe pointing backwards, designated as number one.
<b>Harrier</b>	Any of a number of slender, long-legged hawks, such as the northern harrier.
<b>Hatching Year (HY)</b>	A bird capable of sustained flight and known to have hatched during the current calendar year.
<b>Hemoglobin</b>	The chemical compound in red blood cells that carries oxygen molecules.
<b>Hematocrit</b>	Synonymous to packed cell volume, the percentage of red blood cells in a blood sample that has been centrifuged.
<b>Hematoma</b>	Accumulation of blood under the skin.
<b>Hood</b>	Covering for a bird's head, made of leather, that reduces visual stimuli and calms the bird.
<b>Hook</b>	The distance from the lower mandible to the tip or point of the upper beak. This is measured when the beak is closed.
<b>Humerus</b>	Large upper wing bone, from shoulder to elbow
<b>Hypernea</b>	Abnormally rapid and deep breathing.
<b><u>I</u></b>	
<b>Imping</b>	Replacing broken feathers with "new" ones saved from previous molts or from feathers of other birds.
<b>Imprinting</b>	A rapid learning process occurring very early in an animal's life during a short critical or sensitive period which establishes a behavior pattern such as recognition of its own kind; imprinting is considered irreversible.
<b>Integument</b>	Skin
<b>Intramuscular (IM)</b>	Injected in a muscle.
<b>Intraosseous (IO)</b>	Injected into a bone.
<b>Intravenous (IV)</b>	Injected into a vein.
<b>Iris</b>	Colored portion of the eye, a muscular diaphragm or ring which controls the amount of light reaching the retina.
<b><u>J</u></b>	
<b>Jesses</b>	<b>Aylmeri</b> – Leather bracelets fitted around the bird's legs. These can be attached permanently with grommets or temporarily by wrapping around the leg and weaving one end through a slit near the other end. <b>Field jesses</b> – Short leather straps attached to the alymeris. <b>Flight jesses</b> – Temporary jesses attached to the legs for the purpose of exercising the bird.

## K

**Keel**

Breastbone and the site of attachment of the large flight muscles; very prominent in emaciated birds.

**Kettle**

Term used to describe a group of hawks flying together, usually during migration.

## L

**Lateral**

Towards either side, away from the midline (see medial).

**Local (L)**

Age designation given to young birds incapable of sustained flight.

## M

**Mandible**

The lower beak.

**Mantling**

The spreading of wings and tail while feeding in an effort to hide prey from competitors; often accompanied by loud vocalizations.

**Maxilla**

The upper beak.

**Medial**

Towards the center or midline of the body (see lateral).

**Menace Reflex**

A bird's response to an object approaching its eyes; only exhibited in diurnal birds.

**Metacarpals**

Also called carpometacarpus: the few remaining wrist and finger bones that support the outer 10 flight feathers.

**Metatarsus**

Lowest part of the leg, formed by the fusion of tarsal (ankle) bones. Also called tarsometatarsus.

**Mobbing**

Aggressive behavior often displayed by small birds towards raptors.

**Molt**

Annual loss and replacement of many or all feathers.

**Mustache Mark**

Dark facial marking below the eyes found in most falcons.

**Mutes**

Droppings, fecal material.

## N

**Nape**

Back of the neck.

**Nares**

Openings to the nasal cavity, located in the cere.

**Necropsy**

Autopsy on an animal.

**Nictitating Membrane**

Nictans - a third, translucent eyelid that lubricates and cleans the cornea and protects the eye from injury by the nestlings during feeding.

**Nocturnal**

Active at night (See diurnal).

## O

**Oblique**

Term used to describe a type of fracture in which bones break at an angle, such that elongated, very sharp fragments are created.

<b>Occipital Condyle</b>	The “socket” at the base of the skull into which a part of the first neck vertebra fits; only one condyle is found in raptors, which partly accounts for the head mobility.
<b>OD</b>	Right Eye
<b>Ointment</b>	Oil-based topical medication.
<b>Ophthalmic</b>	Pertaining to the eye.
<b>Ophthalmoscope</b>	Hand-held instrument used to examine the internal features of the eye.
<b>Orally</b>	By mouth (PO). Route of fluid or treatment administration.
<b>OS</b>	Left eye
<b>OU</b>	Both eyes
<b><u>P</u></b>	
<b>PO</b>	From the latin <i>per os</i> , meaning by mouth. Route of administration of some fluids or medications.
<b>Packed Cell Volume (PCV)</b>	The percentage of red blood cells in a sample of blood, measured after centrifugation.
<b>Pair Bonding</b>	Certain characteristic behavior patterns displayed each year to strengthen the bond between a male and female.
<b>Palpate</b>	To examine by touching: using your hands.
<b>Patagium</b>	Thin membrane stretched out between humerus (upper “arm”) and radius & ulna (lower “arm”) that forms the leading edge of the wing.
<b>Pecten</b>	Pleated structure in the back of the eye resembling a mountain range that supplies nutrients to the eye. Complete function is not completely understood.
<b>Pellet</b>	Regurgitated “ball of fur”: in owls also contains bones, teeth, exoskeleton or other non-digested portions of prey.
<b>Plasma</b>	The liquid portion at the top of a blood sample after centrifugation, if blood has been prevented from clotting through the addition of an anticoagulant such as heparin.
<b>Plumage</b>	Entire set of feathers.
<b>Pneumatized</b>	Filled with air: in birds, referring to hollow structure of the bones.
<b>Posterior</b>	Towards the back.
<b>Primaries</b>	10 outermost wing feathers that provide forward thrust necessary for flight (the propeller). Supported by the metacarpals (“hand”).
<b>PROM</b>	Passive range of motion - controlled, slow movements of a limb, as during physical therapy.
<b>Proximal</b>	Nearest to the midline of the body (See distal).
<b>Pteryla</b>	Rows of feather growth on the body of a bird. Plural: pterylae.
<b>Pupillary Light Reflex (PLR)</b>	Contraction of the iris when light strikes the retina.

## Q

**QAR**

Quiet, alert, responsive

**QID**

Administered four times per day.

## R

**Radiograph**

Another name for X-ray.

**Radius**

Smaller of the two bones in the “forearm” of the wing.

**Raptor**

A bird of prey: hawk, owl, eagle, falcon, vulture, kite, harrier, osprey, etc.

**Reading**

The-to-side movement one sometimes sees in a bird that has had some form of neurological damage, such as a concussion. The bird moves its head back and forth, as if it is “reading” newsprint.

**Refractometer**

Piece of handheld medical equipment used to measure the amount of protein in blood plasma.

**Remiges**

All wing feathers (primaries and secondaries).

**Retrices**

All tail feathers.

**Rods**

Light-sensitive cells in the retina, important for vision under low light conditions.

**ROM**

Range of motion (of a joint)

**Roughage**

Fur, feathers, etc. in prey food.

## S

**SID**

Administered once per day.

**SQ**

Subcutaneous or under the skin. Route of administration of some fluids and medications.

**Scapulars**

A group of small to medium-sized feathers originating at the shoulder.

**Sclerotic Ossicles**

Small bones forming a ring around the eye which support the eye.

**Secondaries**

A group of 11-19 wing feathers adjacent to the primaries that provide the lift necessary for flight; supported by the ulna.

**Serum**

The liquid portion at the top of a blood sample that was allowed to clot.

**Sexual Dimorphism**

Size and color differences between male and female birds

**Spiral**

Term used to describe type of bone fracture that occurs in a spiral.

**Subcutaneous**

**see SQ**

**Substrate**

Flooring material in a cage.

**Supraorbital Ridge**

Bony ridge above the eye found in most diurnal raptors.

**Synechia**

Iris tissue that has attached to the lens of the eye, usually the result of traumatic injuries

## T

### **TID**

Administered three times per day.

### **TP**

Total proteins or total solids in the serum of the blood.

### **Talon**

Claw, toenail.

### **Tarsometatarsus (TMT)**

Lowest part of the bird's leg formed by the fusion of anklebones.

### **Topical**

On the skin

### **Total Protein (TP)**

(Or total solids);the amount of protein in the serum of the blood.

### **Transverse**

Describes a fracture perpendicular to the long axis of a bone (straight across)

### **Triangulation**

The act of locating the source of a sound or an object by moving the head side-to-side or up-and-down. The receptors (eyes or ears) are moved to collect information from different angles and the brain is able to calculate the origin of the signal.

### **Turbinate**

Small "knob" located within each nare.

## U

### **Ulna**

The larger of the bones in the "forearm" of the wing

### **Undermining**

Technique of separating superficial layer of skin from underlying tissue to allow surgical closure.

### **Unilateral**

Referring to one limb only.

### **Uropygial gland**

Oil gland at the base of the tail, (dorsal side) which produces conditioner used to help maintain feathers.

## V

### **Vent**

Cloacal opening. The opening through which bodily wastes are eliminated, both intestinal and kidney. Also the opening through which sperm enters and eggs are laid.

### **Ventral**

On the underside.

### **Vitreous or vitreous humor**

Clear substance filling the posterior (back) chamber of the eye.

## W

### **Wing Chord**

The distance from the "wrist" joint to the tip of the longest primary; measured on a folded, unflattened wing. Some species (such as Cooper's hawks) can be sexed by this measurement.

## Z

### **Zoonoses**

Diseases found in animals that can be transmitted to humans.

### **Zygodactyl**

Describes the position of toes on the foot of owls and ospreys, with two toes pointing forward and two pointing backwards.