



# The Falcon

**Our Mission:**

**To rehabilitate and release injured and orphaned raptors while inspiring environmental understanding through education for the benefit of all living things.**

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**For a list of upcoming events, check out [www.wvrrc.org](http://www.wvrrc.org)!**

## The World Wide Web and Raptors

By Mike Book, Chairman, Board of Directors

Sign in to the internet, go to search and type in "raptor." Odds are pretty good you will see the West Virginia Raptor Rehabilitation Center near the top of the list. I monitor and answer our emails and, believe me, they come from all over the world. I was a bit moved by the most recent one. It read:

*Just sending you a success story from Afghanistan. Over a month ago an Afghan National Army soldier came up to me with incredibly broken English to tell me that they found an injured eagle. Well it turns out that a Golden Eagle was injured and lying upside down in a riverbed. It wouldn't even walk or attempt to get away. Gently I brought it to camp. We built a cage and got on the internet. I hunted daily and brought fresh quail and prairie dog-looking rodents to the bird. It ate everything I gave it and eventually started to perk up and move around. It kind of became a mascot for a while. Our call sign is "desert eagle" so it fit.*

*I just wanted to say thank you for all the posted information you have as well as the countless other sites that I read over. I will only send this email to you, if you could extend my appreciation through your channels to your colleagues, I thank you. I enclosed a picture of the bird eating and a picture of this morning's release.*

*V/R J.M.*

*Combined Joint Special Operations Task Force-Afghanistan*



**The WVRRC salutes all of our veterans this holiday season!**

## —Featured Species—

### Northern Harrier

*Circus cyaneus*

By Katie Fallon

The Northern Harrier, also known as the Marsh Hawk, is a unique bird of prey found throughout North America. It is a slender-looking raptor with a wingspan of about three and a half feet. One of the Harrier's many unique characteristics is its flat, owl-like face and short beak. This disk-shaped face helps the Harrier hunt its prey by hearing—a feature common to owls but rare among hawks.

The Northern Harrier is *sexually dimorphic*, which means an observer can differentiate between males and females just by looking at the birds. The female Harrier's body is dark brown above and buffy brown below, while the male's body is grey above and pale below. (The bird pictured here is a male.)

The Harrier's preferred habitat is a wet meadow, marsh, or field. They can be observed flying low over these fields, searching the grass and reeds for voles



and mice, their primary food sources. While soaring low, they often hold their wings in a shallow *dihedral* (V-shape). Unlike most other raptors, the Harrier sometimes appears to hover, and can be seen doing so before plunging into the grass after prey.

Another feature of the Northern Harrier that makes it unique among North American hawks is that it nests and roosts on the ground. Also unlike other hawks, Harriers do not mate for life; in fact, a male Harrier may have several mates in one breeding season. Harriers also do not usually return to the same nest site every year.

Despite their widespread range, Northern Harriers are not a common patient at the WVRRC, and are notoriously difficult to rehabilitate because of their high-strung nature. Loss of marshland habitat is the most significant threat to the Northern Harrier, but for now, their populations are stable or in slight decline.

## End of the year donations welcome!

As an all-volunteer non-profit organization, the WVRRC depends on the generosity of its supporters to exist. Without you, we wouldn't be able to fulfill our mission: to rehabilitate injured raptors and inspire environmental understanding through education. We welcome monetary donations in any amount—no donation is too small (or too large). Donations are used to upkeep our facility, feed the birds we care for, and pay for medical care and supplies. **Since all donations to the WVRRC are tax-deductible, the end of the year is a great time to donate!**

We sincerely appreciate each and every donation.

If you are interested in making a donation, please call (304) 366-2867, email [raptor@wvrrc.org](mailto:raptor@wvrrc.org), or use the enclosed envelope.

THANK YOU!

## Thunder's 14<sup>th</sup> Christmas

The following excerpt is from a story printed in our newsletter in early 1993:

*Once upon a time, seemingly eons past (early December 1992), a young Bald Eagle making its way south for the winter from where it hatched in New York state arrived at the Mason Dixon Line. Shortly after passing this point it probably began following the Ohio River. After all, it not only headed in the same general direction her instincts were pushing her, but it would also provide a source of fish, a primary food. At some point during her migration she decided to take a food and rest break in the area south of Parkersburg. This was a huge mistake. Although many details of exactly what happened are unknown, many can be surmised. This is what likely happened.*

*Antlered Deer Season was just winding down in the State. The Eagle had found a nice tree to roost in for the night. Later that evening or very early the next morning, an alleged hunter armed with a rifle spotted the large brown bird. (Bald Eagles do not have the traditional white head and tail until they reach five or six years). Had this been an adult it may have been spared. From the ratio of young to adult Bald Eagles shot that we know about, I theorize that not knowing what these birds are (ignorance) is a significant reason so many more juveniles are shot. This is by no means justification for these dastardly deeds, but it may give us some insight as to the reason it is happening. Once we suspect this, we can and have directed our educational efforts accordingly.*

*Things were slow for the hunter and here, perched high above, was this large target. A shot was taken and the bird was hit. Fortunately, it was not a fatal wound. The bullet passed through the left thigh, missing the bone (femur), and continuing on and through the tip of the left wing, severing the tip at the last joint (equivalent to your hand). The bird was definitely down but not dead. It was later found, probably by a good hunter, and the authorities were notified. Someone had just committed a federal offense as well as violating the Endangered Species Act. The Eagle was ultimately transferred to the Special Agent with the US Fish and Wildlife Service who then turned the bird over to the WVRRC for care and rehabilitation.*



**This picture of Thunder was taken in 1993. As you can see, she lacked the white head feathers of a mature Bald Eagle.**

Since this article was written, Thunder and members of the WVRRC have conducted many education programs. The population of bald eagles have increased greatly since the '92-'93 slaughter of 13 birds in the state of West Virginia. The number of birds being found shot now has greatly decreased. I attribute this to education. Thunder has been seen by tens of thousands of folks during her years with us. There's not much that quality education won't cure.

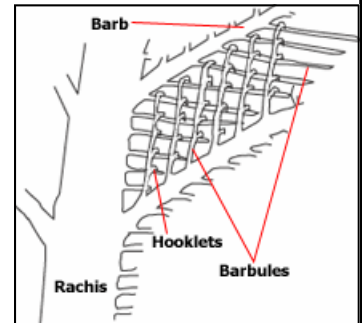
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## ANATOMY OF A FEATHER

By Jesse Fallon

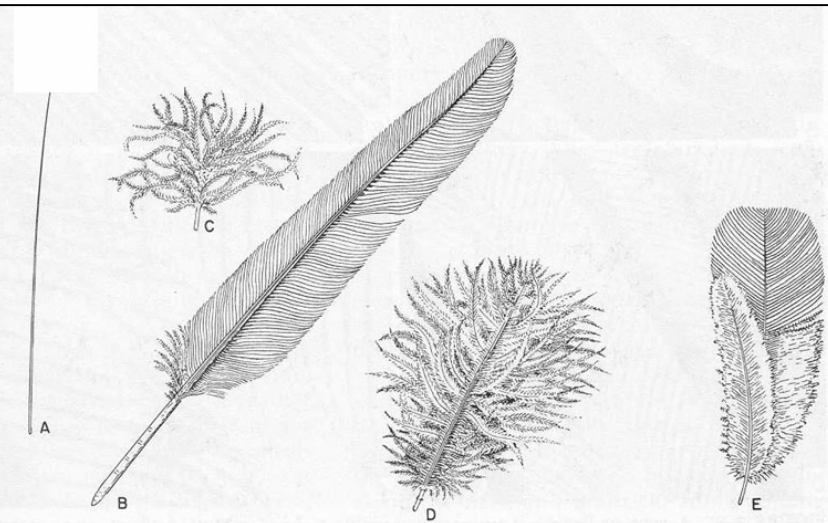
Feathers are the most characteristic feature of birds. All birds, and no other type of animal, have feathers. While we all know that birds need feathers to fly, we don't often think of the different kinds of feathers and all the different ways that they help a bird stay healthy.

A feather is made up of a several parts. The central vein, also called the rachis, has hundreds of **barbs** that protrude from each side. Each barb has hundreds of individual **barbules** that are barely visible to the naked eye. When you look at these barbules with a microscope, you can see that each barbule has dozens of tiny **hooklets**, which interlock with the hooklets from the barbule beside it. This design of interlocking hooklets, barbules, and barbs results in a Velcro-like system that resists being disrupted. If you have ever found a feather on the ground and stroked it toward the tip, you are re-locking the tiny hooklets. This is exactly what a bird does when it slides a feather through its beak and "preens."



We all have a picture in our mind of what a typical feather looks like. In fact, most birds have at least six types of feathers. These include flight feathers (remiges), tail feathers (retrices), contour feathers, semiplumes, down feathers, and bristle feathers. Each of these serve a different function, and each is very important to the health and survival of birds. The semiplumes and down feathers (D and C in the diagram below), which do not have the interlocking hooklets or barbules, are very soft and serve as a thick insulating layer to help keep the bird warm or cool. On top of the down lie the contour feathers (E) which are the outermost layer of feathers over most of the bird's body. As you can see in the image below, these feathers are often soft on the bottom, but take the typical feather form towards the end. Some birds have stiff bristle feathers (A), which are basically a long central vein with no barbs or barbules, and act a lot like the sensory

whiskers found on mammals. Have a close look **Bubo** the Great Horned Owl's face next time you see her. She has some great bristle feathers! The tail and flight feathers (B) are quite similar in their structure, except that the flight feathers are asymmetrical and often slightly curved. These flight feathers have to be asymmetrical in order for the bird to fly properly. If you look at a flight feather from a small song bird, you may not notice that they are curved, but next time you see Thunder, Annie, or Bubo at a show ask to see a flight feather and you will see that they are indeed quite asymmetrical. All raptors have ten primary flight feathers on each wing.



Next time you find a feather on the ground, have a closer look, try to get those barbs, barbules, and hooklets interlocked, and see if you can tell what kind of feather it is!

*Jesse is currently in veterinary school at Virginia Tech and is scheduled to graduate in 2008. He continues to pursue his interest in avian medicine.*

# Meet the New Education Director

By Shannon Dey

Hi all! My name is Shannon Dey and starting out this year I will be heading up the education program for the Raptor Center, so I'd like to introduce myself a little. I began volunteering at the Raptor Center in 2003 as one of the weekly volunteers at the barn, helping to feed the raptors and maintain the facility. In the summer, I helped out with education programs as part of an internship requirement for my major at the time, Wildlife and Fisheries Resources. Since then, I have become actively involved in the education program, traveling all over the state to educate a variety of crowds about raptors and the environment.

Outside of the Raptor Center, I am currently a graduate student at West Virginia University working on my Masters in Recreation, Parks, and Tourism Resources. For my thesis I am involved in a state-wide project to increase the capacity for environmental education in West Virginia through the development of a state-level environmental education organization. I will be graduating in the spring, at which time I will begin my second Masters degree in Secondary Education. After school, I plan on pursuing a career in environmental education, so as you might figure, the position of Education Director with the Raptor Center is an excellent opportunity for me.



New Ed Director Shannon Dey with Annie

I am very excited about this new experience and hope to do my job well. I hope to provide new and progressive ideas that will continue to move the program forward in the greater West Virginia area. I believe raptors are important species in West Virginia and educating the public is a critical component for encouraging appreciation, understanding, and conservation of them. So, it is through the education program that I hope to contribute to the goals of the Raptor Center of inspiring environmental understanding through education.

*We would like to take a moment to thank Nick Hales, who served as Education Director for the past two years. During that time, he conducted many education programs for a variety of audiences. Nick has decided to step down to devote more of his attention to his graduate studies. He and his wife Amy will remain valuable assets to the WVRRC, and we were fortunate to work with such dedicated educators over the past several years.*

***Thank you, Nick, for all your hard work!***

## WVRRC BOARD OF DIRECTORS

- Chairman Michael Book
- Operations Director Marilyn Bowman
- Education Director Shannon Dey
- Katie Fallon
- Jesse Fallon
- Robert Boyle
- Lloyd W. Spring, III
- Michael Boyce

## Wish List

- Cleaning Supplies
- 1/4" or 3/8" diameter natural rope
- Latex gloves
- Weed eater
- Heavy welding gloves
- 4-drawer filing cabinet

## News from the Center

### Raptor Disposition Report January 1, 2006—November 1, 2006

SPECIES	RELEASED	DIED	EUTHA-NIZED	PENDING	TRANS-FERRED	TOTAL
American Kestrel	3					3
Broad-winged Hawk	2			1		3
Cooper's Hawk		1				1
Golden Eagle		3				3
Great Horned Owl	1		2	2		5
Screech Owl	1	2		3	1	7
Red-tailed Hawk	1	1	3			5
<b>TOTAL</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>27</b>

### Another Great Horned Owl Fledgling

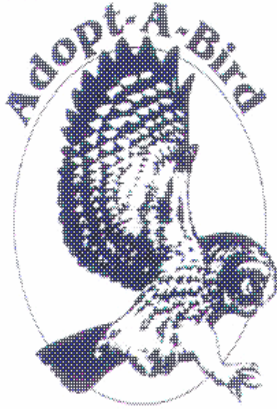
By Marilyn Bowman, Operations Director

On September 15, the Raptor Center responded to a Monongalia County resident's call about a great horned owl that was in need of help. Upon arriving at the residence our volunteer was confronted with a fully grown and feathered fledgling that was exceptionally hungry and had no fear of humans. The logical deduction of the situation was that this bird had been human raised from a very young fledgling age (past spring) and released into the wild when whoever had the bird decided it was ready. This owl would have starved to death had it not fortunately encountered people who could nurture and provide training through the necessary developmental stages for survival; models are required for this process usually through the parent bird. In this case that apparently was not completed by its caretaker, and this completely normal owl had no ability to successfully hunt/kill/eat.

Our first issue at the Center was to provide ample food to return the owl to a normal weight; it ate ravenously for a couple of weeks and would immediately draw close to the cage door opening and grab the food that was provided. The bird remained human friendly. The developmental training issues now would begin.

It presently is housed in a large flight cage with another adult rehabilitating great horned owl; this cohabitation provides natural instruction to the baby who is increasingly less and less human tolerant. Live prey will be introduced to the fledgling at some point soon as it now successfully grasps, tears, and eats food within normal limits. When the owl demonstrates prey killing skills it will be fully capable of wilderness survival. The bird will be held in captivity until spring 2007 and released in an area and at a time when weather and hunting are optimal for great horned owls.

## Adopt-A-Bird Application



YES, I would like to adopt a(n) \_\_\_\_\_

My check for \$ \_\_\_\_\_ is enclosed.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip Code: \_\_\_\_\_

SPECIES:	CARETAKER:	STEWARD:	PARENT:
Bald or Golden Eagle, Peregrine Falcon	\$250	\$100	\$30
Osprey, Vultures, Hawks, or large Owls	\$200	\$90	\$25
Kestrel or Screech Owl	\$150	\$80	\$20

PARENT receives an adoption certificate and the WVRRC newsletter. STEWARD receives a photograph of the sponsored bird, an adoption certificate, and newsletter. CARETAKER is entitled to be photographed with the adopted bird, receives an adoption certificate, and newsletter.

(continued from page 3)

In a related side note resulting from our GREAT web site [www.wvrcc.org](http://www.wvrcc.org) I received an e-mail from Brian asking what it costs to feed Thunder. Here was my reply:

*Brian,*

*Not a common question but a good one. Most folks want to know how much she eats daily. We are fortunate that about 80% of her food is donated, but if we bought what she eats it would cost just over \$225 per month. We estimate her room and board for the year to be approximately \$6,700. As of December 1, 2006 we will have had her in our care for 14 years. At \$6,700/year she has run up a hefty bill of \$93,800. One bald eagle lived in a zoo to be 80 years old. I won't be here if she lives that long (she'll be 15 in April 2007) but her expenses with inflation would reach close to \$700,000 if she lives that long. As much of a pain as she can be at times, she definitely earns her keep with her educational contributions. To date, I'd estimate her value to cost ratio to be at least 5-1. She, like all the birds we use for education, is worth our time and your donations...just ask anyone who has seen one of our presentations.*

And Merry Christmas to all the birds, our volunteers, and all of you that believe what we do is worth doing. Thank you.

By Michael S. Book  
Chairman, Board of Directors

# WEST VIRGINIA RAPTOR REHABILITATION CENTER

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Morgantown, WV 26507

Phone: 1-800-540-6390  
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Email: [raptor@wvrrc.org](mailto:raptor@wvrrc.org)

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## WVRRC MEMBERSHIP FORM

Membership in the WVRRC is open to anyone who shares an interest in the Center's mission. Membership is based on the calendar year in the following categories:

<b>Student / Senior</b>	<b>\$7</b>	<b>Supporting</b>	<b>\$35</b>
<b>Individual</b>	<b>\$10</b>	<b>Donor</b>	<b>\$50</b>
<b>Family</b>	<b>\$17</b>	<b>Sponsor</b>	<b>\$100</b>
		<b>Patron</b>	<b>\$500</b>

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

MEMBERSHIP LEVEL: \_\_\_\_\_

Would you like your newsletter emailed?

Email address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

To join, please complete this form,  
enclose a check or money order made  
payable to WVRRC and send to:

WVRRC  
PO Box 333  
Morgantown, WV 26507

The WVRRC is a non-profit, volunteer-based organization with 501-c-3 status. All donations are tax-deductible.