### **ADOPT A WILD RAPTOR!**

### CONTRIBUTE TO RVRI THROUGH OUR 'ADOPT A RAPTOR PROGRAM'

When you adopt a raptor, you will receive a packet which includes an adoption certificate specific to your individual bird with band number, wing tag (Golden Eagle only), age, sex, size and when and where it was banded. You will also be notified of any follow-up information regarding re-sightings, re-capture and recoveries. Furthermore, you will get a 4 x 6 color photo of your adopted bird and an informative Natural History fact sheet.

#### AVAILABLE RAPTORS

Sharp-shinned Hawk.\$American Kestrel\$Cooper's Hawk\$Northern Harrier\$Merlin\$Prairie Falcon\$Red-tailed Hawk\$Rough-legged Hawk\$Swainson's Hawk.\$Northern Goshawk\$1Golden Eagle\$1	25 35 45 50 50 50 75
Golden Eagle \$1   Golden Eagle with satellite transmitter \$10	



### WRITE DOWN THE RAPTOR YOU WANT TO ADOPT IN THE SPACE PROVIDED IN THE ENCLOSED ENVELOPE

We are a 501{c} 3 non-profit organization; all donations are tax deductible. A receipt for your tax records will be provided.

### **RAPTOR VIEW** RESEARCH INSTITUTE P.O. BOX 4323 MISSOULA, MT 59806



RAPTOR VIEW RESEARCH INSTITUTE P.O.BOX 4323 MISSOULA, MT 59806 406.258.6813 ROB\_DOM@MSN.COM WWW.RAPTORYJEW.ORG

### LETTER FROM THE PRESIDENT

write to you while slumped low in the front seat of my muddied 4-Runner parked in an open field west of Missoula. It is 1 p.m., Thursday, Dec. 13. The skies are gray and overcast with temperatures in the mid-20s. A light, steady snow falls. Peering every minute or two through my window-mounted spotting scope, I spy our bait station. Roughly a half-mile away, where the edge of the field meets the cottonwood trees that border the river, sit three road-killed deer carcasses carefully positioned in front of our net launcher. Tyler Veto and I wait in chilled anticipation of capturing an eagle this afternoon. Currently, 25 ravens are on the bait, and two bald eagles are on the ground. The eagles are slowly closing in with a skulking, menacing gait, making the ravens nervous and jumpy. We hardly move a muscle, scarcely breathing so as not to draw attention to our position and ruin our chances. It's clear that this is going to take a while. Eagles can be extremely wary and patient. So, I'll keep writing.

Our eagle studies have extended far beyond our usual Sept. 1 through Oct. 31 field season. As you read through our newsletter you'll see that RVRI has had a productive year (now our fourth). From our fall raptor migration and golden eagle research on the Rocky Mountain Front (where we banded 35 golden eagles and fitted two adults with satellite transmitters), to our spring Swainson's hawk and summer osprey projects, our accomplishments have been numerous. As always, we incorporate a number of free educational workshops that target at-risk children into our field work. These are some of my favorite days, allowing all of us at RVRI to connect with the awe of youth and hopefully create a spark to light the next generation of conservationists. In this small Montana community, these personal connections and interactions have lasting impacts. To that end, we also do-

# WINTER 2007 - 2008

Preparing to release large adult female Golden Eagle

### LETTER (CONTINUED FROM PAGE 1)

nity fund-raisers.

While time spent with these incredible birds coldoes little good sitting in our files. With help from freelance writers like Becky Lomax and Charles Finn, we Montana Outdoors, High Country News and other periodicals. In addition, our research has been featured on the front pages of several Montana newspapers. Recently the osprey project was featured by Ian Marquand on KPAX news.

Along with sharing with the general public, RVRI strives to communicate our findings with the scientific community. This winter, our goal is to publish several manuscripts in peer-reviewed journals. We also look forward to presenting our studies at the Raptor Research Foundation conference. It is being hosted by Kate Davis of Raptors of the Rockies and the University of Montana here in Missoula in September of 2008. Our friend and colleague Denver Holt, executive director of the Owl Research Institute, reminds me of just how important it is to get this information out there. In order for us to achieve our mission of conservation, we need to share our findings in the hopes that they will inspire people to take action. Furthermore, Rap-

nate days in the field to local charities and commu- tor View would not be able to do our work without the support of our volunteers, colleagues and donors who ensure the continuation of our conservation eflecting data is my favorite part of the job, the data forts. Thank you. We rely on your continued support and hope that others will be so moved.

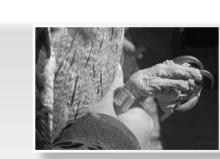
This brings me back to the present, and the two have been able to share RVRI's work in a variety of bald eagles before me, an adult and a mottled brown outdoor magazines, such as The Montana Quarterly, juvenile, feeding together on the bait. Are they local or wintering migrants? What are their lead and mercury levels? These are just some of the questions that go through my mind. A deep sense of caution, a certain wiliness and a remarkable physical ability is what helps these raptors survive in this ever changing world. We take a deep breath as the net launches and flies towards it mark. This requires a certain patience and faith that if the net were to completely overshoot the mark (as it just did), that tomorrow will be the day. Disappointed but not deterred, we will reset the nets looking forward to our next opportunity.

Best regards,

Rob Komenich



RVRI RECAPTURES BANDED GOSHAWK



Taking a close look at the band

We were thrilled to get our first re-captured bird for RVRI, an adult female northern goshawk! Rob trapped and banded her back on Oct. 14, 2004. At that time, we estimated she was two years old. We thought it was pretty cool when she was re-captured this year by Rob on Oct. 20, 2007, at five years of age. We were glad to see she has survived the rigors of those first formative years of life, surviving to a breeding age. She looked to be in very good health. We took some standard measures, checked the band, which was in great condition and again set her free. We look forward to more encounters like this in the coming years.

### GOLDEN EAGLE WING TAG UPDATE '07

▶ VRI has been applying vinyl wing-tag N markers on all captured golden eagles since 2001, and to date more than 120 migrant eagles have been marked from our stations. We have found this technique considerably more effective than banding alone as a means of identifying individuals and receiving return information on banded birds. Studies have shown that leg bands alone offer a return rate of roughly 1 percent. Therefore, of every 100 birds banded, on average only one will be recovered. In contrast, the 122 eagles that RVRI indexed with wing-tag markers have yielded 14 re-sightings.

Information from these encounters can offer us some idea about where migrant golden eagles are wintering and breeding, how far they have traveled and how long they live, as well as causes of mortalities. In 2007 we received five new reports on wing-tagged eagles, more than any previous year.

Four of these eagles were alive and well, observed this fall migrating south along the Rocky Mountain Front in west-central Montana. Unfortunately, not all of these reports are good news.

In February 2007, we received a mortality report on golden eagle B-41, banded as a sub-adult Oct. 7, 2003. This eagle beat the odds by surviving to reach adulthood and was likely heading back north from wintering grounds in the southwestern United States. Regrettably, B-41 was found dead, electrocuted under power lines, roughly 100 miles south of Albuquerque.

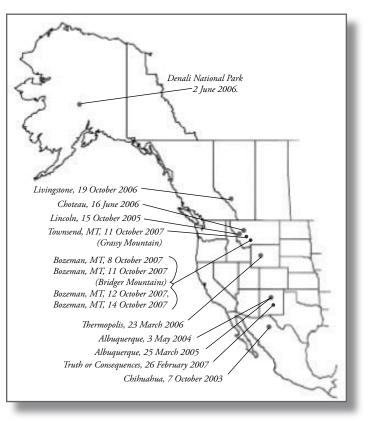
Sadly, this is a preventable mortality, as numerous ways exist to mitigate these electrical lines, making them "raptor safe." This further emphasizes the conservation need to identify these high risk areas. Currently RVRI is working with several utility companies and government agencies to make these identified areas safer for large raptors.

As time passes and data continues to trickle in, we look forward to learning more of the outcomes of these individual eagles in our efforts to learn more about golden eagles as a whole.

Rob releases a recaptured Northern Goshawk



Mike and Rob release Golden Eagle C-55 from Nora Ridge



Wing-tagged Golden Eagle re-encounter locations

### EDUCATION

VRI continues to offer free, hands-on outdoor educational workshops for local school groups,  $\mathbf{K}$  youth homes, college students, community organizations, the general public, and others. We feel that 'the informal, non-traditional classroom' is a great way to augment conventional approaches to learning, while exposing students to a very unique outdoor education experience. We are able to involve students from a variety of backgrounds and circumstances in all aspects of raptor research, and introduce them to key ecological principles, raptor ecology, and conservation biology.

### RAPTOR VIEW'S EDUCATION CURRICULUM • • •

RVRI offers a comprehensive educational curriculum designed and written by Noel Nies- Nesmith, as part of her Masters Degree in Education. Noel deftly merges field research techniques and classroom learning into an informative, fun and complete format designed primarily for middle and high school age students.

#### Schools and youth groups participating in our educational programs include:

Missoula Youth Homes (MYH), Seeley-Swan High School, Willard Alternative High School, and Flagship Youth Program. All of these kids are enthusiastic and have experienced a unique view into wildlife conservation that few area kids ever see.

#### NEW PROGRAMS AND PROJECTS

#### Women's Opportunity Resource and Development (WORD) Program

This summer we had the opportunity to work with WORD's Summer Arts and Leadership Camp, a program for homeless and at-risk youth. Two groups of kids came out with us (ages 8-13) as we visited a couple local osprey nests (the bucket truck alone raised a good deal of excitement). As the nestlings were carefully brought down, we had the opportunity to talk about osprey natural history and our local conservation efforts. The kids were very inquisi-



Rob and WORD students with Osprey chicks

tive and seemed to really enjoy the hands-on nature of our research. Perhaps we inspired a few budding scientists. We look forward to working with them again next year.

#### Coming this summer 2008 "Osprey Cam"

We will introduce the latest addition to our educational outreach, the OSPREY CAM! This is part of our on-going osprey project with Erick Greene and Heiko Langner and will be a perfect fit with Noel's curriculum. We can think of no better way to introduce area school kids of all ages to osprey and their natural history.

#### A Day in the Field

RVRI donates a day in the field for local community fundraisers, charitable events and other nonprofit organizations. The day is spent working with RVRI biologists on one of several research projects, depending on the time of year. Most trips are to fall raptor migration and golden eagle research site. Participants assist directly in all aspects of our field work. We enjoy sharing our research and are glad we can help. Our days in the field have brought in donations of up to \$1,000

### RESEARCH

#### **Determining Gender in Golden Eagles**

Morphological measurements such as, wing-chord, tail length, body weight, etc., have proven to be reliable indicators in determining gender for several raptor species. In many raptors, females are often measurably larger than males. However, this is not always the case with golden eagles. By collecting DNA and comparing it to our morphological measurements, we hope identify the most accurate technique for sexing golden eagles in hand.

#### Wing-loading

In general to determine wingloading, we utilize wing area and body mass measurements. Wing-loading is known in many species of raptors, but not in golden eagles. This research will add insight into golden eagle aerodynamics and behavioral ecology



#### Eagle Lead Project

Lead poisoning in raptors, especially bald eagles has been well documented. A ban on

lead shot for waterfowl hunting was initiated in 1991 to remedy this problem. However, colleague Bryan Bedrosian with Beringia South regularly detects elevated blood-lead levels in ravens and bald eagles, from the on-set and shortly after rifle hunting season. Evidence suggests that the contamination may be coming from gut piles.

Like ravens, golden eagles are opportunistic feeders, known to scavenge gut piles. This fall we collected blood from 35 golden eagles. These samples are currently being analyzed for lead by University of Montana chemist Heiko Langner. Preliminary data, using a portable lead test kit reveled elevated lead levels in nine of seventeen birds tested in the field.

Please see our website for updates on this project.





Kathy and Bryan with young Golden Eagle moments before release

Jim Lish tracing primary feathers for wing-loading study

### RESEARCH



### 

This fall we successfully completed our ninth season of research along the Rocky Mountain Front (RMF) and second season of banding and observation from Nora Ridge. In addition, we completed an experimental pilot season from Grassy Mountain in The Big Belts Mountains.

Our trapping teams were spread thin, with each location staffed by only two trappers and a few volunteers. RVRI Executive Director Rob Domenech, with apprentice trapper Tyler Veto (nice job, Tyler!) worked the Nora Ridge site, while returning biologists Tim Pitz and Vince Slabe teamed up to try their skills and test their stamina on the exceptionally windy and high (elevation 7500 feet) Grassy Mountain site. In the end, both teams were successful, with combined efforts resulting in an RVRI record-breaking total of 35 golden eagles banded in a single season!

### MIGRATION COUNT FROM NORA RIDGE . . . .

We were privileged to have our Nora Ridge count headed up by veteran raptor migration specialists Fred and Cathy Tilly, whose skills and overall expertise proved invaluable for this project. The numbers and species composition of migrants at Nora Ridge were very encouraging, and the 360-degree view from the north ridge observation point allowed Fred and Cathy to detect passing migrants from all directions.

### Banding Summary, Nora Ridge

This season we moved our banding station south, roughly 1 mile down ridge. We strategically set up our two blinds, according to our flight observations from 2006 and based on advice from mentor Steve Hoffman (executive director of Montana Audubon).

> We trapped from Sept. 13 through Oct. 28 (weather permitting), for a total of 26 days. We banded a total of 57 raptors, including 18 golden eagles. (Please see tables on next page for complete totals)

#### Count Totals, Nora Ridge

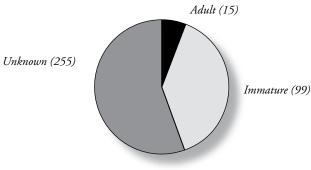
In spite of a late mid-September start to the count and extended periods of overcast conditions, our count total was higher than expected. Observations were conducted from Sept. 15 through Oct. 29 for 39 days; six days were suspended due to impossible weather conditions. We totaled **2,672** raptor migrants in 253 hours of observation, comprised of 17 species, including turkey vultures.

Rough-legged Hawk

# RESEARCH

The golden eagle total came in at 1,616 (our highest to date) and comprised 60 percent of all observed migrants. Our all-time daily high count occurred on Oct. 13 when Fred and Cathy tallied 334 raptors, including 236 golden eagles!

### Golden Eagles Separated by Age Class at Nora Ridge



September

Other raptor species observed (species comprising less than 1 percent were listed only): Sharp-shinned Hawk 250 (9 percent), Red-tailed Hawk 195 (7 percent), Cooper's Hawk 123 (4.6 percent), Rough-legged Hawk 112 (4.1 percent), Bald Eagle 94 (3.5 percent), Northern Goshawk 71 (2 percent), Northern Harrier 35 (1.3 percent), American Kestrel 31 (1.1 percent), Osprey, Broad-winged Hawk, Swainson's Hawk, Ferruginous Hawk, Merlin, Peregrine Falcon, Prairie Falcon and Gyrfalcon.

### MIGRATION COUNT FROM GRASSY MOUNTAIN

As mentioned, we knew this pilot season would be challenging for the "Grassy Mountain boys"... name of a bluegrass band? Due to the location's remoteness, Tim and Vince were on their own nearly every day, coping with the extreme weather conditions of the Big Belt Mountains, as well as the daily challenges of running a banding station. However, with near daily moral and advisory support from Steve Hoffman, they pulled it off and, among many achievements this season, caught the two adult golden eagles that were instrumented with our satellite transmitters. Great job, guys!

Observations from Grassy Mountain were conducted entirely from inside the trapping blinds, greatly limiting the ability to detect passing migrants. This was noted when they left the blinds to extract birds from nets. Future work will include full-time counters.

#### Banding Summary, Grassy Mountain

We banded a total of 30 raptors, including 13 golden eagles. Our focus was primarily on the golden eagles. We regard these numbers as good.

Northern Goshawk

Unknown (841)

Adult (309)

Immature (211)

October



### **RESEARCH** (CONTINUED)

### Count Totals, Grassy Mountain

Observations and trapping were conducted from Sept. 10 through Oct. 24 (weather permitting). We observed a total of 1,049 raptor migrants in 176 hours of observation, comprised of 17 species, including turkey vultures. We counted 682 golden eagles, comprising 65 percent of total observed migrants.

#### Other raptor species observed (species comprising less than 1 percent were listed only):

Sharp-shinned Hawk 94 (9 percent), Red-tailed Hawk 54 (5 percent), Cooper's Hawk 38 (4 percent), Rough-legged Hawk 33 (3 percent), Bald Eagle 16 (2 percent), Northern Goshawk 19 (2 percent), Northern Harrier 19 (2 percent), American Kestrel 25 (2 percent), Osprey, Broadwinged Hawk, Ferruginous Hawk, Merlin, Peregrine Falcon and Prairie Falcon.

Unknown (28) Adult (164) Adult (50) Unknown (221) Immature (63) Immature (156) October September **Capture Summary** Capture Summary **Capture Totals** Nora Ridge 2007 Grassy Mountain 2007 AK 0 AK 0 BE 0 BE 0 BW 0 BW 0 4 СН CH 0

GE

GR

ML

NG

NH

PG

PR

RL

RT

SS

Total

13

0

0

4

0

0

2

2

0

0

30

Golden Eagles Separated by Age Class at Grassy Mountain

Count conducted exclusively from trapping blinds

2001-2007						
	AK	11				
	BE	2				
	BW	2				
	СН	82				
	GE	134				
	GR	1				
	ML	11				
	NG	120				
	NH	17				
	PG	3				
	PR	6				
	RL	15				
	RT	63				
	SS	97				
	Total	564				

American Kestrel (AK), Bald Eagle (BE), Broad-winged Hawk (BW), Cooper's Hawk (CH), Golden Eagle (GE), Gyrfalcon (GR), Merlin (ML), Northern Goshawk (NG), Northern Harrier (NH), Peregrine Falcon (PG), Prairie Falcon (PR), Rough-legged Hawk (RL), Red-tailed Hawk (RT), Sharp-shinned Hawk (SS)



### ADULT GOLDEN EAGLE SATELLITE TRACKING STUDY 2007 . . .

ittle is known about adult golden eagle migratory ecology in North America. Where do they winter Land how long do they stay? Do they use the same migration routes and wintering areas annually? What are the major causes of mortality, both human related and naturally occurring? These are just some of the questions that we need to answer in order to determine appropriate conservation and management strategies.

This year, with major funding from M.J. Murdock Charitable Trust, we secured three satellite transmitters, successfully deploying two of the units on adult males. To our knowledge these are the first two adults ever captured on migration in western North America to be outfitted with satellite transmitters. This allows us to track the daily movements of these two eagles. We are planning to use our third transmitter this spring. Compared to young eagles on migration, adults are far less studied. We can learn more about golden eagle migratory movements as a whole, as adults are proven survivors and have presumably made their migratory journeys many times over.

Our two adult male eagles fitted with transmitters on Oct. 15 and 24, respectively, wasted little time in heading towards their wintering grounds. They migrated along the Rocky Mountain Front, flying nearly identical routes (but always about 10 days apart), at times covering more than 180 miles per day.

From the banding site, they went south, through eastern portion of Yellowstone National Park, picking up the Wind River Mountain Range in Wyoming. Both birds hung out around the southern end of the Wind River Mountains along the Wind River for several days. Perhaps it was a good feeding area; or maybe weather conditions necessitated a stop ... or both? Afterwards, they flew southeast into Colorado, where they held up in Rocky Mountain National Park, near Lake Granby, for about a week. Keeping on the move, they continued cruising along the **Banding Station** (Big Belt Mts.) North Dakot Rocky Mountain Front, riding the updrafts near the released 10/16 - 10/26 Sangre de Cristo Mountains, passing through Great Sand Dunes National Park, south into New Mexico close to the Roswell crash site. It is here where GE53 South Dakota chose to winter. However, GE52 continued along the Davis Mountains flying 240 miles in a single day, to Idaho (53) 10/24-10/26 the Rio Grande River. Keeping on the move, the following day GE53 flew another 65 miles along the riv-Nebraska er, settling down and wintering just north of Amistad È. Reservoir. He covered roughly 1500 miles in 11 days. (53) 10/30-11/02 Please visit our Web site for updated information on Utah and maps of these two eagles. Kansas



Carefully securing the transmitter to adult male GE 52

GE

GR

ML

NG

NH

PG

PR

RL

RT

SS

Total

18

0

0

15

0

0

4

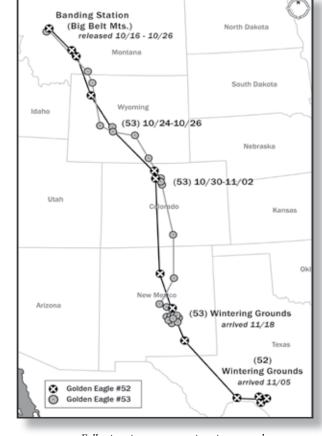
2

12

2

57





Fall migration routes to wintering grounds

### RESEARCH (CONTINUED)

### OSPREY RESEARCH 2007 . . . . . . . .

Missoula is located along the Clark Fork River, just downstream from of one of the largest Superfund sites in the country. For more than 100 years, heavy-metal contaminants from mining operations at the Anaconda smelter have accumulated behind the Milltown Dam. These contaminants include mercury, arsenic, lead cadmium, zinc and copper. The removal process is already underway and there is legitimate concern that these heavy-metal contaminants could find their way into the watershed downstream. For more information on the Clark Fork remediation project, visit the Clark Fork Coalition's Web site (http://www.clarkfork.org/programs/milltown.html).

As top predators that feed exclusively on fish, ospreys serve as biological indictors, i.e. "canaries in the coal mine" of the health of the aquatic ecosystems. By testing ospreys for contaminants and monitoring the health of local populations, we can gauge the level and extent of the contamination present in these ecosystems. RVRI's osprey research project presents an ideal opportunity to establish baseline data for pre- and post-dam removal contaminant levels, as well as using ospreys as "bio-sentinels" for other Montana watersheds.

We are proud to be partnering with several local experts, University of Montana researchers Dr. Heiko Langner and Dr. Johnny Moore (Environmental Biogeochemistry Lab) and Dr. Erick

Greene (Division of Biological Sciences and Wildlife Biology), to closely examine the causes, locations and possible effects of mining-related contaminants on ospreys and the ecosystems that support them. Preliminary findings from our research show that blood sampled from many ospreys along the Clark Fork River contain high concentrations of mercury and selenium.

During the 2007 field season we accessed 15 nests, tested and banded 28 nestlings, roughly doubling our sampling effort from 2006. This brings our two-year project total to nearly 23 nests and more than 43 nestlings. Preliminary results are troubling, with many of our nestlings showing mercury levels 100 times higher than what would be considered toxic in humans.

## **RESEARCH** (CONTINUED)

### OSPREY BALING TWINE PROJECT . . . . . .

Through monitoring, we have encountered a serious, rather unexpected hazard to area ospreys. Baling twine is a polypropylene rope used to tie bales of hay, and it often gets left in fields after ranchers open the bales to feed livestock. Ospreys apparently go to great lengths to collect baling twine and line their nests with it: We have found baling twine in nearly every nest located in our study area. This results in a big problem, since the chicks and even the adults can easily get tangled in it. In some areas it kills more than 10 percent of the chicks before they fledge, as well as some of the adults. An osprey nest that blew down in a wind storm last spring contained more than a guarter of a mile of baling twine!

We are excited to report that two students from Hellgate High School, Max Egenhoff and Matt Parker, are working diligently to remedy this problem. These two outstanding young men are working closely with Dr. Erick Greene and Anicka Kratina-Hathaway (an undergraduate biology student from The University of Montana) and have taken the lead on finding a solution to the osprey baling twine dilemma.

For more information, contact: projectosprey@mso.umt.edu

Coming in Summer 2008 the"Osprey Cam" (see page 4)

#### Hellgate students Matt Parker and Max Egenhoff



Heiko's daughter Charlotte with nestling Osprey

Erick Greene and Rob return Osprey nestlings

Over a quarter mile of baling twine from fallen Osprey nest

### RESEARCH (CONTINUED)

### SWAINSON'S HAWK NESTING PROJECT . . . .

Each year, Swainson's hawks undertake one of the longest migrations of any of Montana's breeding raptors. They regularly travel roughly 7,000 miles to wintering grounds as far south as Argentina then return to western North America in April to breed. Theirs is truly an incredible migratory undertaking and one that requires an enormous investment of time and energy.

In mid April we were happy to see our first color-banded males showing up on territories from previous seasons. However, habitat is changing fast in this region. Where less than year ago there were open fields for Swainson's hawks to hunt and suitable trees for nesting, there now are only paved roads and subdivisions. Indeed, the development and growth of the Missoula Valley seems to be catching up with them.

To give you an idea of the change, in 2006, we accounted for 10 occupied nesting territories. Six of the 10 pairs successfully fledged young, with an average of 2.8 young per nest and a total of 17. The 2007 season was far less productive. We observed seven active territories, and only two of those were successful in fledging, with just one chick each.



Swainson's Hawk

The poor breeding success of occupied territories may be attributable to low rodent numbers, possibly a result of the drought-like conditions of this summer. Denver Holt, of the Owl Research Institute, reported that vole numbers crashed according to data from the institute's Mission Valley small mammal surveys. Similarly, Denver reported low long-eared owl breeding success in Missoula Valley.

To date we have identified 13 Swainson's hawks nesting territories in the Missoula Valley, banded more than 20 individual birds, and marked 17 with uniquely colorcoded bands. We will continue to monitor the known territories and search for new ones as we learn more about Swainson's hawks in the Missoula Valley.

We would like to extend a hearty thanks to our professional arborist friends: Rob Dylan, owner of Dylan Tree Service & Landscape in Missoula, and Tim Nesmith, owner of Salmon Logging in Seeley Lake. Both these gentlemen donated their time and climbing expertise in the past to access nests, and we hope to call on them again next spring.

Also, thanks to our friend Denver Holt, who remarkably and courageously climbed to the very top of a huge ponderosa pine this summer to access a Swainson's hawk nest. Awesome, Denver

### STABLE HYDROGEN ISOTOPE PROJECT 2007

Every fall, thousands of raptors migrate through Montana on their annual journey from breeding to wintering grounds. But figuring out where that eagle calls home is a more complicated question. By utilizing innovative sampling techniques, RVRI has been able to more accurately pinpoint a raptor's "place of birth."

Specifically, an isotope of hydrogen, called deuterium, was selected due to the ratios of deuterium changing consistently with latitude. With this technique we only need to take a "thumb-sized" feather sample, which then can be analyzed to determine the ratio of deuterium. By sampling only juvenile birds, whose feathers are grown in the nest, we can estimate the individual bird's natal origin. We have been sampling fall migrant juvenile golden eagles and northern goshawks since 2004 and have collected 58 and 35 samples, respectively. We are now in the process of analyzing our 2007 samples and will be writing up our results this winter for publication. Nonetheless, we will continue collecting samples and adding to our data sets, as this is an innovative, cost-effective way to learn more about avian migratory ecology.

### GREETINGS FROM CHRISTA'S DESK! • • • • • • • •

Greetings fellow Raptor View fans,

This fall I had the unique privilege of handling a female Golden Eagle of giant proportions. I encased her between my arms and against my chest while Rob carefully performed his research duties. She was scared, I was scared and I couldn't help think about her large curved talons as she sat in my lap. My palms were sweating and my muscles slowly started to burn. I held her gently but firmly, as she calmed down. Strangely, I kind of liked breathing in her scent, it reminded me of my dog and the outdoors. As it turns out, I had little reason to fear this raptor. Her heart rate and breathing slowed and she seemingly fell asleep in my arms. It was a beautiful experience.

RVRI had an equally beautiful experience earlier this year when we received a very generous grant from the M.J. Murdoch Foundation that was used to expand the Golden Eagle Project. We will be working over the next few months to match the \$20,000 grant through additional grants and private donations. If you would like to make a donation directly or through our Adopt-A-Raptor program we would love to hear from you. In addition, we are always in need of volunteers and supplies for our research sites.

RVRI's dedicated staff and researchers sincerely thank you for your support of our work. We are here to serve our community, both human and raptor, and we appreciate the opportunity to make a difference.

Onward and Upward, Christa Weathers Grants Program Coordinator

### COLLABORATIONS 200

RVRI continues to develop partnerships and collaborate with other professionals in order to build on our research and expand our educational outreach. It is impossible to express how crucial these relationships are to our work. They develop out of a common interest and passion for raptors, their health and environment. And as often happens, professional relationships turn into lifelong friendships.

From technical support to moral guidance, these relationships are vital. Without them, we could not accomplish all that we do. We would like to take this opportunity to recognize some of these individuals and organizations.

Our sincerest thanks and appreciation go to Bryan Bedrosion with Beringia South Research; Denver Holt with Owl Research Institute; Erick Greene and Heiko Langner with University of Montana; Jim Lish with Oklahoma State University; Kathy Gray with California State University Chico; Kate Davis with Raptors of the Rockies; Ken Wolff of Grounded Eagle Foundation; Melanie Smith, Geographic Information System specialist; Pete Sherrington with Rocky Mountain Eagle Research Foundation; Rick Doucette with Northern Arizona State University; Ryan Alter, Alter Enterprises; Steve Hoffman, Montana Audubon; Jim Sparks, Bureau of Land Management; Steve Kloetzel, The Nature Conservancy; Pat Shanely, Helena National Forest, Hawk Watch International; Montana Fish, Wildlife & Parks; and so many others.

Board	Rob Domenech	Kathy Gray PhD	Victoria Parks	Kelly Castleberry	Noel Nies
of	President	Secretary	Treasurer	Director	Director
Directors	Missoula, MT	Chico, CA	Missoula, MT	Missoula, MT	Missoula, MT



Christa Weathers takes a moment to say hello

# 2007: A VIEW FROM THE FIELD





Erick Greene checks out Prairie Falcon

Jill, Kat, Bryan, Rob and Jim

Vince and Tim with adult female Rough-legged Hawk



Jenny Calder with her first Golden Eagle





Rob and Tyler 2 in 1 catch.



Steve Hoffman with Northern Goshawk



We here at RVRI lost someone who was both an inspiration and dear friend. We first met Tom Warren (father to Whitney Warren who is a long-time member of the RVRI family) in 2005. His enthusiasm for raptors, kind demeanor, curiosity and infectious passion for knowledge will be greatly missed.



Ouch! Golden Eagle gets a piece of Rob's cheek



Noel, eagle trapper extraordinaire

# **THANK YOU!**

Here we recognize those foundations, organizations, businesses and individuals who have supported us, through monetary donations, professional expertise and volunteer support. Without all these generous contributions RVRI wouldn't be able to accomplish all that we have.

### ORGANIZATION & FOUNDATION SUPPORT . . . .

Beringia South Big Sky Conservation Institute Bureau Land Management Charlotte Martin Foundation Clark Fork Coalition Grounded Eagle Foundation Helena National Forest International Osprey Foundation Koret Foundation LCAO Foundation Maki Foundation M. J. Murdock Foundation Mountaineer's Foundation MT Fish, Wildlife & Parks MT Audubon MT Outdoor Science School

### BUSINESS SUPPORT .

Allegra Printers Ancare Veterinary Clinic Alter Enterprises Inc. B.A. Builders Inc. Boyce Lumber Candy Goff-Bookkeeping Dave Taylor Roofing Dillon Tree and Landscape Co.

EDSD Erik Enzien Graphic Design Grassy Mountain Guest Ranch Law Office of John J. Ferguson Kettle House Brewery Law Office of J. Tiffin Hall Montana Ace Hardware Missoula Electric Coop

### CONSTITUENTS

In the interest of their privacy, we no longer list the names of our private and individual constituents, as many of them wish to remain anonymous.

INDIVIDUALS . . .

Tilly

From assistants in the field, to detailed lab analysis and everything you could imagine in between; we could not make it happen with out their generosity. As always, we make an effort try to recognize everyone. Thanks to all of you! All photos courtesy of Tyler Veto unless otherwise cited.

Anicka Katrina -Hathaway Annie Jost Becky Lomax Bob Walker Bonnie Snavely Brett Walker Brvan Bedrosian Charles Finn Christa Weathers Dave Taylor David Lopez Denver Holt Earl Pruyn Erick Greene

Mike Palladini Heiko Langner Fred and Cathy Kate Davis Kathy Gray Jennifer Calder Jessica Kato Jerry and Jane Densel Jill Learned Matt Young Jim Cusker Jim Lish



page 14 

Owl Research Institute Patagonia Plum Creek Foundation Raptors of the Rockies S.E.C. Charitable Corp The Nature Conservancy University of Montana Walker Family Trust

- Montana Water Trust Northwestern Energy Pet Nebula Quality Supply Salmon Logging Small Dog Solutions Vann's Wal-Mart

Rankin Holmes Megan Fylling Katie McKalip Rob Dillon Rob Magana Ryan Alter Kathy Townsend Sara Ashline Kelly Castleberry Sharon Fuller Kristin Johnson Steve Hoffman Mat Seidensticker Tim and Noel Nesmith Melanie Smith Victoria Parks Nate and Whitney