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	**$25**
American Kestrel	**$25**
Cooper's Hawk	**$35**
Northern Harrier	**$35**
Merlin	**$45**
Prairie Falcon	**$45**
Red-tailed Hawk	**$50**
Rough-legged Hawk	**$50**
Swainson's Hawk	**$75**
Northern Goshawk	**$100**
Golden Eagle	**$150**
Golden Eagle with satellite transmitter	**$1000**

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

Winter 2009 - 2010

Raptor View Research Institute

P.O. BOX 4323 MISSOULA, MT 59806 (406) 258-6813
ROB.DOMENECH@RAPTORVIEW.ORG WWW.RAPTORVIEW.ORG

Message From The President

Hello and welcome to RVRI's 5th annual newsletter. This year is quickly coming to a close and with the fall field season behind us, it is time to focus our efforts on report and manuscript preparation, public presentations, and of course, fundraising. Spring will be upon us before we know it, (late March for our work here in Missoula) marking the beginning of yet another field season. As field biologists we love nothing more than being out in the field, but we also recognize the importance of writing up our findings for science and for the larger purpose of conservation. We could never accomplish all that we do without the continued generosity of many financial supporters, collaborators, and friends.

These last five years seem like a "flash-in-the-pan." Where does the time go? Yet, when we consider what has been accomplished in the short amount time since our inception, we couldn't be more pleased.

From our fall raptor migration and Golden Eagle research along The Rocky Mountain Front, to our Missoula area Osprey and Swainson's Hawk projects, we are in the field nearly year-round and our work has drawn international attention from researchers, conservationists, and educators. For example, our Golden Eagle research will be part of an up-coming episode on the National Geographic Channel. *(see page 12)*

Indeed, we have been busy and have no intention of slowing down. Since 2004 we have banded a total of 934 raptors, comprised of 14 species, including 130 Golden Eagles, 132 Northern Goshawks and 111 Ospreys. The number of Golden Eagles rivals that of any similar study in the world. Many raptor species show signs of declining. The causes are likely numerous, but most of the available evidence points to human-caused impacts to the environment and raptor habitats as a major contributor to the declines. However, we are only now beginning to scratch-the-surface in terms of truly understanding the extent of these impacts and developing effective ways of mitigating them. Most of our research projects are multi-faceted, long-term studies that specifically address human-caused impacts on raptors.

In response to these concerns, a growing number of researchers are calling for more long-term, in depth studies. We

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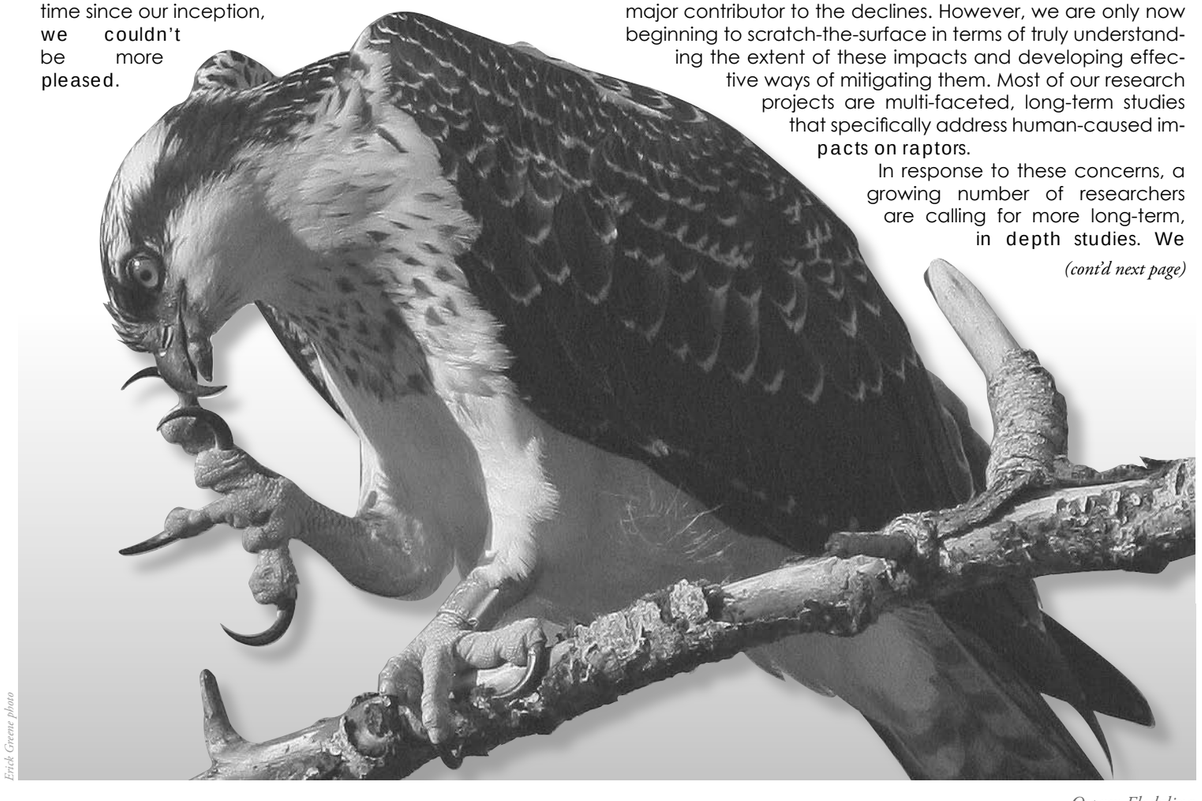


Erick Greene photo

Osprey Fledgling

MESSAGE (CONTINUED FROM PAGE 1)

agree, as it is only through longevity of study that researchers answer some of the more pressing questions regarding population trends and the effects of human-caused change on the environment. For example, long-term migration point counts along eastern flyways alerted researchers and conservationists to the lethal effects of organochloride (DDT) insecticides on raptors, most notably, Peregrine Falcons, Bald Eagles and Ospreys. These same point counts were the first to observe the subsequent recoveries after DDT was banned in the U.S. This need for long-term studies is the rationale for continuing our point count from Nora Ridge and our continued search for other viable fall and spring migration count sites in Montana. Also, point counts are the most cost effective way to monitor changes in migratory raptor populations on a landscape level over time. Likewise, our on-going Golden Eagle wing-tag study continues to bring together pieces of the puzzle regarding their migratory and breeding ecology from Alaska to Mexico. The monitoring of lead, mercury, and other heavy metals in Golden Eagles and Ospreys is an effective long-term method of assessing the health of ecosystems upon which we all depend. These continuing projects have already revealed some very interesting and exciting results!

In closing, I would like to thank everyone who has contributed in the past, whether through donations or volunteer time. I also appeal to you to continue supporting our programs, even during these tough economic times. I ask those of you who are just learning of our work for the first time, to consider a tax deductible donation to Raptor View or consider volunteering your time. Your contribution of any size is essential to the continuation of our research, conservation, and education programs. We look forward to hearing from you and making new partners in conservation. Have a wonderful year!

Sincerely,
Robert Domenech

Bob Domenech

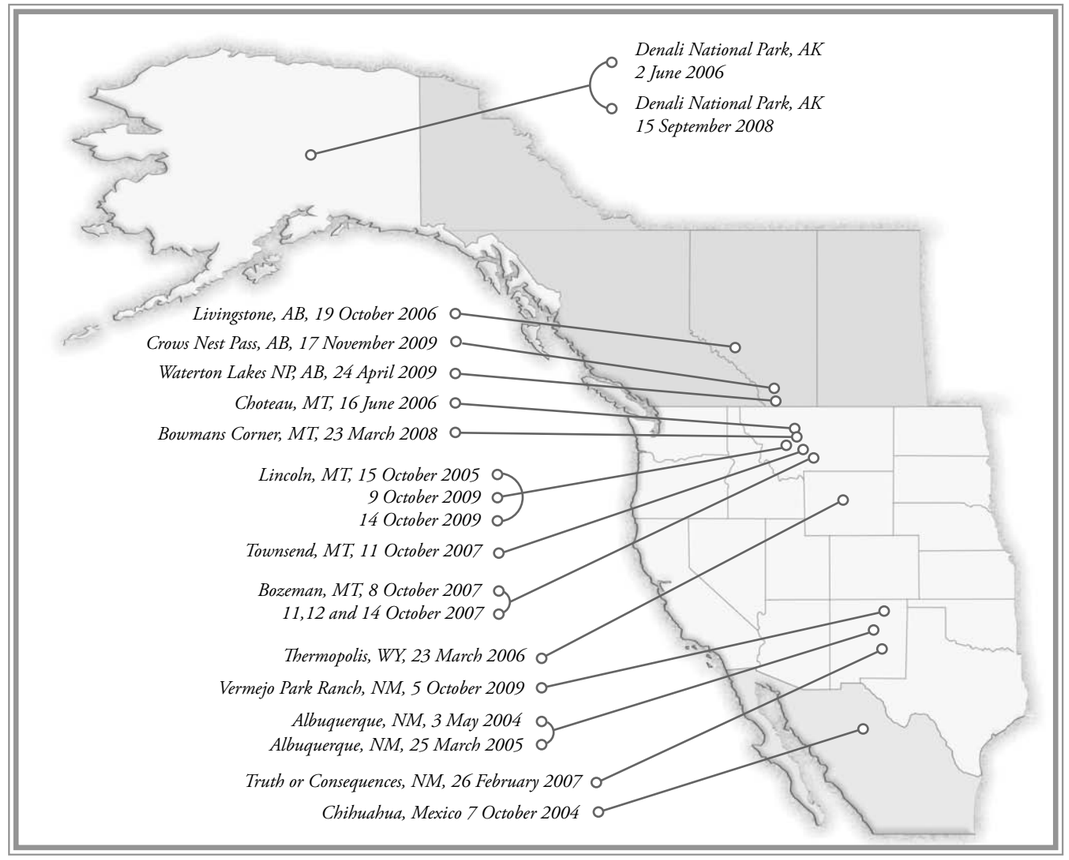
GOLDEN EAGLE WING TAG UPDATE '09

Vermejo Ranch photo

Eagle C-42 photographed remotely at a wolf research site in northern New Mexico, spring '09

RVRI has been applying vinyl wing-tag markers (blue with white alpha-numerics) on all captured Golden Eagles since 2004, and to date roughly 130 migrant eagles have been wing-tagged and banded from our stations. This technique is considerably more effective than banding alone as a means of identifying individuals and receiving return information.

These encounters are helping us learn more about Golden Eagle migratory ecology, such as, where migrants are wintering and summering, how far they travel, how long they live and the cause of individual eagle mortalities. In 2009, four of our wing-tagged eagles were encountered. Two were remotely photographed while feeding at bait stations in New Mexico and Waterton Lakes National Park, Canada; two were re-sighted feeding on road-killed deer near Lincoln, MT.

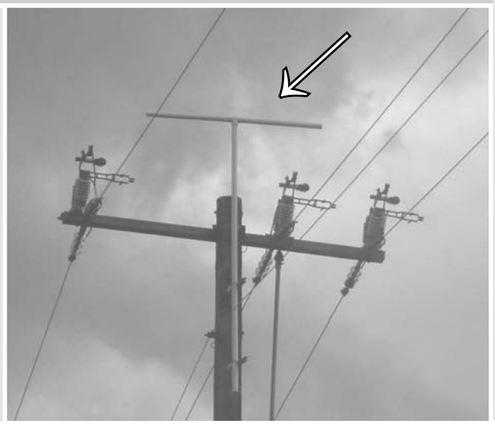


Map of Golden Eagle Wing-Tag Encounters, as of Fall 2009

PAWS-UP RANCH POWER LINE RETRO-FITTING PROJECT

In spring 2008, RVRI received a call from the Paws-Up Ranch, as ranch hands had discovered an injured adult Bald Eagle in one of their pastures. We arrived to find the eagle, standing in the field with one wing drooped, underneath a row of utility poles. We secured the injured bird and brought it to a local rehabilitation facility. We noted the eagle had the smell of "burnt hair."

The Paws-Up guest ranch is located in the scenic Blackfoot River Valley and has beautiful open pastures and large expanses of relatively undisturbed land. The valley is home to numerous wintering, migrating and breeding raptor species. Most notable, are the high numbers of Bald and Golden Eagles, as well as Red-tailed Hawks that arrive annually on Paws-Up Ranch in late winter and early spring.



To minimize electrocution, utility poles are retrofitted with "Raptor Safe" equipment

They all come to feed on Columbian Ground Squirrels that have recently emerged from hibernation and whose colonies number in the thousands. These open pastures are lacking in trees, therefore the eagles and other large raptors use the utility poles that stretch out across the fields to hunt, feed, and perch from. The poles, designed primarily of early 1970's three phase, cross-arm configuration are known by the industry and others for electrocuting large raptors. RVRI felt the need to investigate further.

After getting the 'thumbs up' from ranch manager Jim Nielson, we conducted foot surveys of the utility poles on the ranch and documented the remains of dozens of electrocuted raptors. It was clear this was a large scale problem and not limited to just a few poles.

We contacted our friend David Lopez, operations specialist with Missoula Electric Cooperative (MEC). We showed David what we had discovered. David explained the flaws in outdated design style and how to effectively correct the problem by retrofitting the poles with "raptor safe" equipment. MEC general manager Mark Haden was in full support and MEC retrofitted more than 20 utility poles in the summer of 2009!

This collaborative effort in conservation between Raptor View, MEC, and Paws-Up Ranch is a fine example of how research, industry and landowners can work together to protect these ecologically vital, federally protected species. We will continue working with MEC and other utility companies in our efforts to identify and retrofit old and even newer utility poles that do not adhere to standards for raptor protection.

Education

RVRI continues to offer free, hands-on outdoor educational workshops for local school groups, youth homes, college students, community organizations, the general public, and for charitable events. 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.

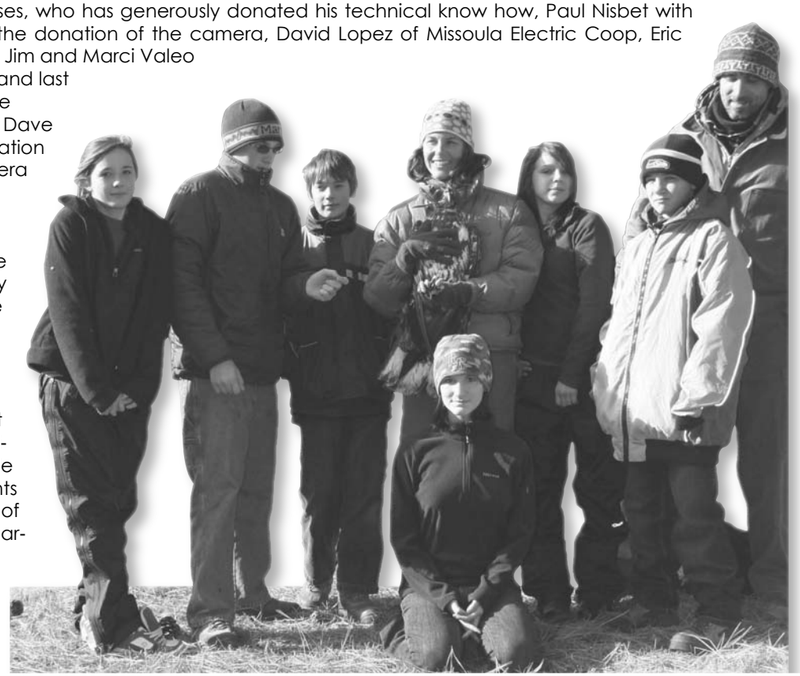
Schools and youth groups that have participated in our educational programs include:
Missoula Youth Homes (MYH), Seeley-Swan High School, Willard Alternative High School, Flagship Youth Program, WORD (Summer Arts and Leadership Camp), Clark Fork Watershed Education Project, Natural History Center and others. All of these kids are enthusiastic and have experienced a unique view into wildlife conservation that few kids ever see.

Coming this summer 2010 "Osprey Cam" FINALLY
At long last we look forward to Osprey Cam this spring/summer of 2010. We had some technical challenges in 2008 and then, in 2009, the Osprey didn't nest at the camera platform. We feel confident that all will come together for us this 2010 breeding season.

This is part of our on-going Osprey Project and will be a perfect fit with Noel's raptor education curriculum. We can think of no better way to introduce area students of all ages to Osprey ecology. The education aspect of the Osprey Project really took off during the summers of 2008 and 2009 and was remarkably successful with over 300 kids from a variety of youth based organization participating. We are very excited about 2010 and incorporating Osprey Cam into this on-going, long-term research and education project.

Very special thanks to:
Ryan Alter of Alter Enterprises, who has generously donated his technical know how, Paul Nisbet with Vann's who arranged for the donation of the camera, David Lopez of Missoula Electric Coop, Eric Ashcroft of A & S Electrical, Jim and Marci Valeo with nest platform access, and last but by no means least Dave Taylor and Rob Magana of Dave Taylor Roofing for fabrication and installation of camera mount.

Day in the Field
RVRI donates a day in the field for local community fundraisers, charitable events and other non-profit organizations. The day is spent working with RVRI biologists on one of our research projects. 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.



Tyler Veto photo

Arts and Leadership camp kids pictured with juvenile Bald Eagle

Research

Groups and charities include: The Natural History Center, AniMeals, Missoula Children's Museum, Missoula Carousel Association, Footloose Montana, Jayden Summerfield Fund, NPR Public Radio, YMCA (Christine Doyle Fundraiser), Jodi Marshall Fundraiser, Traveler's Rest Preservation and Heritage Association and others. Please feel free to contact us if you think we can help.

FALL MIGRATION AND BANDING RESEARCH FROM NORA RIDGE

This fall we successfully completed our fourth season of banding and observation from Nora Ridge along the Rocky Mountain Front (RMF) in west-central Montana. This project is part of an ongoing effort to monitor trends in raptor populations of the northern Rocky Mountains, with an emphasis on Golden Eagles.

Tyler Veto photo

Challenging conditions were the norm on Nora Ridge in 2009

The 2009 season was our most challenging season to date, due to extended bouts of extreme weather conditions in late September and early October. Record low, freezing temperatures, atypical east winds, low clouds obscuring the nearby ridges and snow accumulations of more than a foot kept both counters and trappers off Nora Ridge for more than two weeks during the peak Golden Eagle migration. The east winds and socked-in cloud cover caused the normally predictable flight of migrating raptors along the western flanks of Nora and surrounding ridges to be much more spread out and lower in altitude than usual, making counting and trapping most difficult.

In spite of the weather, our trapping team was in full force and highly motivated. Our team included RVRI executive director Rob Domenech and returning trappers, Tyler Veto, Vince Slabe and Stephen "Step" Wilson. We were fortunate to add new comer Brooke Tanner to the RVRI team. Brooke is an expert raptor handler and rehabilitator, whose hard working nature and shared passion for wildlife made her a welcomed addition to the team. Finally, we were happy to have Bryan Bedrosian with us for most of peak season. Bryan brings high energy, unique skills and experience to the team. This year he brought his newly designed mini net launchers, which proved invaluable for catching eagles during the bad weather when we were off the ridge for extended periods of time.

Tyler Veto photo

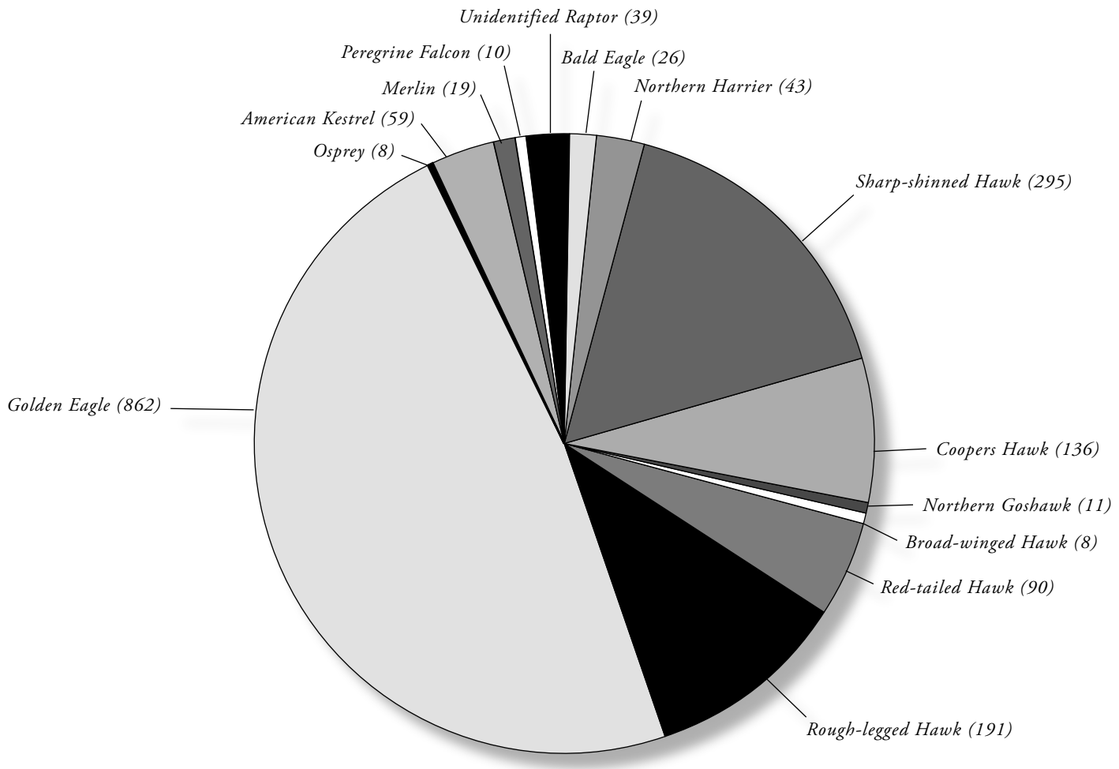
Tyler Veto photo

Before and after: the observation blind under construction (left) and fully camouflaged (right)

GOLDEN EAGLE AND FALL RAPTOR MIGRATION COUNT FROM NORA RIDGE

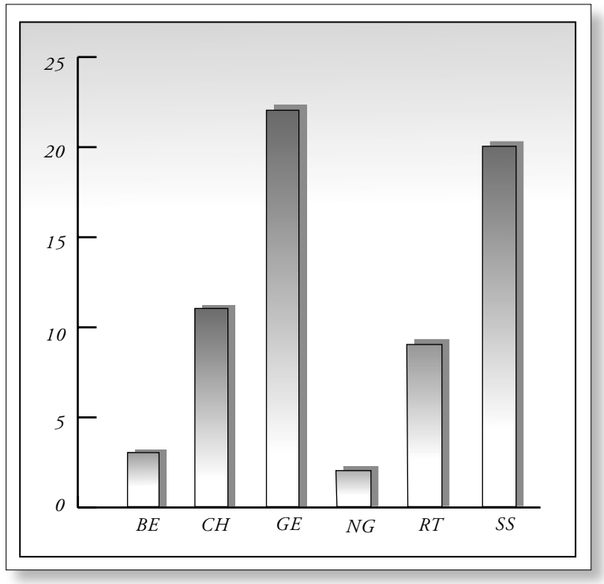
The Nora Ridge count was headed up by veteran raptor migration specialists Fred and Cathy Tilly, whose skills, stamina and overall expertise are truly invaluable to this project. As previously mentioned, this season saw the most difficult weather conditions on record for this study. Unable to reach the ridge count site during the bouts of extremely bad weather, Fred and Cathy took up the count from the highway 200 pull out, located just north of Nora Ridge.

Count Totals
Observations were conducted from September 11 through October 30. During this period, six days were suspended due to impossible weather conditions and seven days were cut short due to bad weather. A total of **1,848** raptors were counted in **268** hours of observation, comprised of **17** species, including Turkey Vultures. The Golden Eagle total came in at **862** and comprised **46** percent of all observed migrants. Our highest count in one day occurred on October 12 when Fred and Cathy tallied **144** raptors, including **110** Golden Eagles.



Raptors species observed
Golden Eagles: *862* **(46%)**, Sharp-shinned Hawks: *295* **(15%)**, Rough-legged Hawks: *191* **(10%)**, Cooper's Hawks: *136* **(7%)**, Red-tailed Hawks: *90* **(4%)**, American Kestrels: *59* **(3%)**, Northern Harriers: *43* **(2%)**, Unidentified Raptors: *39* **(2%)**, Bald Eagles: *26* **(1.4%)**, Merlins: *19* **(1%)**, Northern Goshawks: *11*, Peregrine Falcons: *10*, Broad-winged Hawks: *8*, Ospreys: *8*, Ferruginous Hawks: *4*, Prairie Falcons: *2*, Unidentified Buteos: *14*, Unidentified Eagles: *13*, Unidentified Accipiters: *11*, Unidentified Falcons: *2*

BANDING SUMMARY, NORA RIDGE



Banding Summary for Nora Ridge 2009

We began trapping from September 16th through October 25th (weather permitting), for a total of 19 trap days on the ridge, compared with 34 days in 2008. As previously mentioned, the extreme, winter like weather conditions, greatly reduced the number of trap days on the ridge. We banded a total of 67 raptors, including 22 Golden Eagles this season, only four caught on Nora Ridge.

Thanks to Bryan Bedrosian's mini net launchers, we were able to continue capturing Golden Eagles from below the ridge. With Bryan's help we were able to band 18 Golden Eagles using his new system.

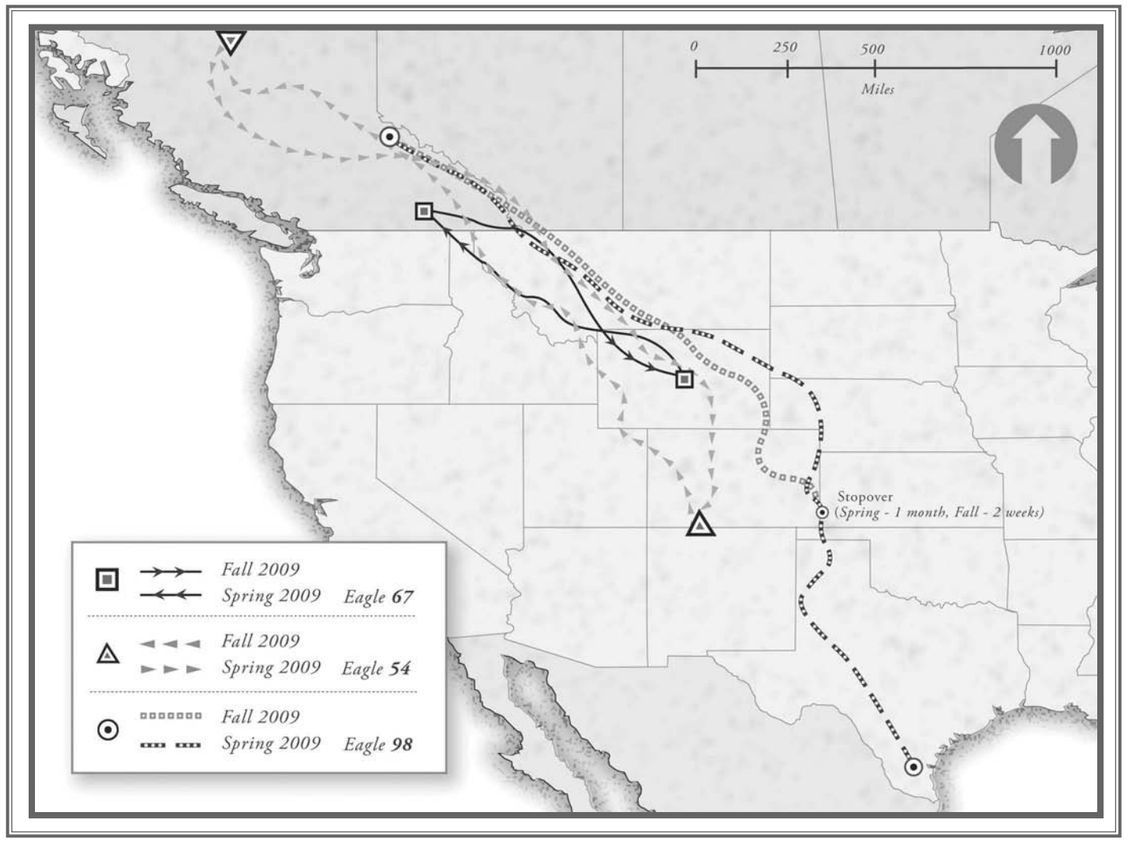
Highlight captures included:
Our second recapture of Golden Eagle 629-51808 *(see page 12 for full story)*. Capture of a wing-tagged Golden Eagle C-109, which was caught on Bedrosian's net launcher about two hours prior! The eagle was released near the foot of the ridge and came down on our pigeon lure less than an hour after release. The eagle was fed during processing which suggests to us that eagles continue with business as usual after banding. This supports previous data indicating these marked eagles are not inhibited by wing-tags. ***Thanks to everyone for making the fall 2009 successful in spite of the adverse weather.***

Jim Lish photo

Jim Lish photo

Huge, gnarled talons of an adult female Golden Eagle (left), Feeling the immense pressure of a Golden Eagle's talons through a specialized Kevlar gauntlet glove (right)

ADULT GOLDEN EAGLE SATELLITE TRACKING STUDY 2009

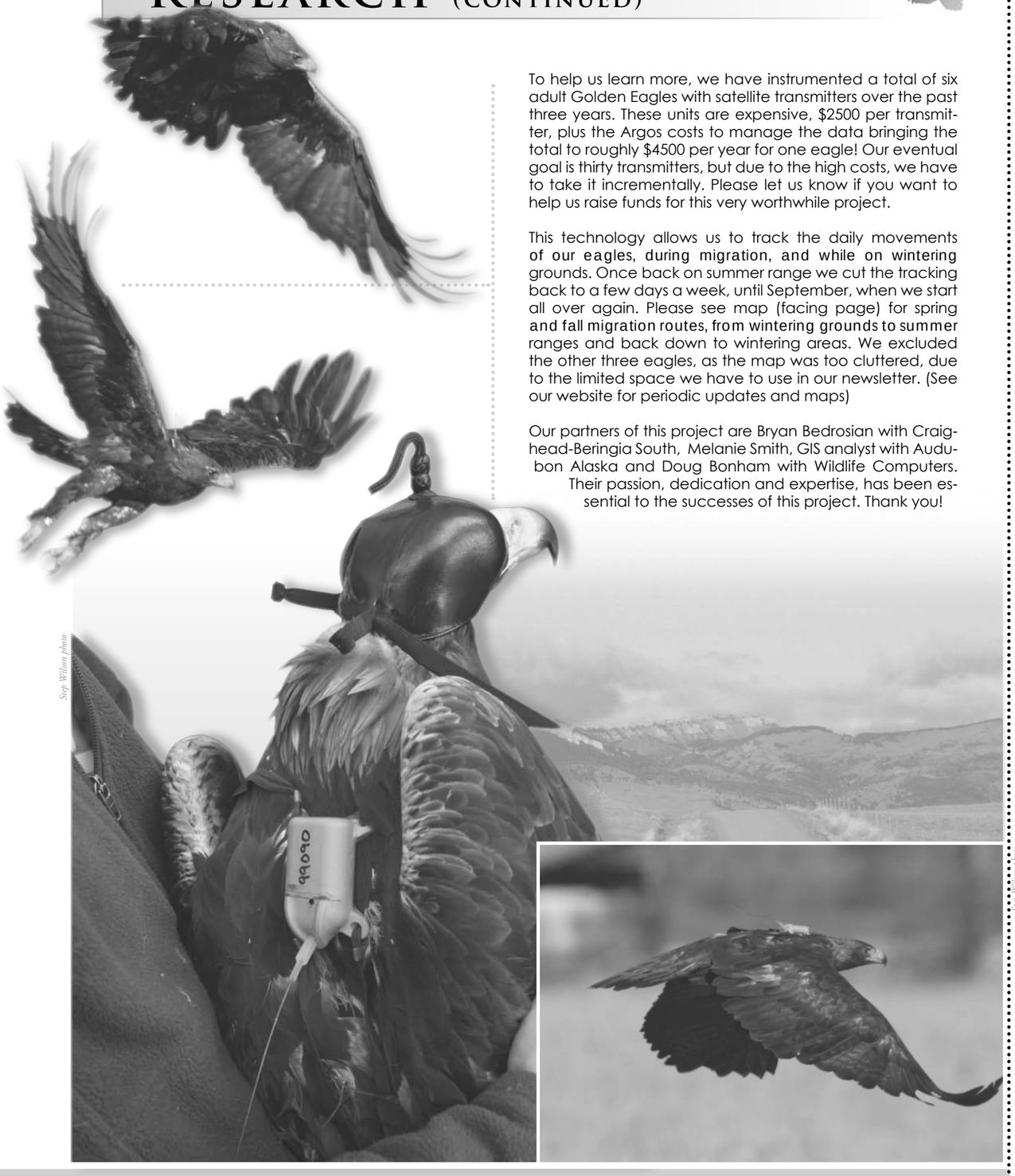


Migration routes of satellite transmitter equipped adult Golden Eagles

Compared to young Golden Eagles, adults are far less studied on migration with satellite telemetry. This is largely due to the difficulty of capturing wary adults. We can learn more about Golden Eagle migratory ecology as a whole by studying adults, as they are proven survivors and have completed their migratory journeys many times over.

Long-term point count surveys of migrating Golden Eagles on the Rocky Mountain Front flyway (RMF) indicate declines in both total fall and spring Golden Eagle annual counts over the past 15 years and suggest the rate of decline has been increasing. This trend is more pronounced in the spring point count totals and may be due, in part, to an increase in mortalities occurring on wintering grounds in the Lower 48. In order to slow Golden Eagle population declines, it is imperative to understand the current fall and spring migration routes, stopover areas, winter range movement patterns, and potential hazards within these areas.

Threats to migrating eagles in the form of power line electrocution, poisoning, shooting, lead contamination due to fragmented rifle bullets in carrion and gut piles, vehicle collisions, habitat degradation and others have been ongoing for many years. In addition, wintering ground destinations such as: Wyoming, Colorado, New Mexico and Texas have been subject to rapid and severe impacts from the oil and gas development boom of the last decade. Furthermore, large scale wind farm developments are also a concern, especially when located along migration routes and wintering areas. Indeed, threats to Golden Eagles have clearly increased and may have reached the point where reproduction is unable to keep up with increasing mortality.



Skip Wilson photo

Skip Wilson photo

To help us learn more, we have instrumented a total of six adult Golden Eagles with satellite transmitters over the past three years. These units are expensive, $2500 per transmitter, plus the Argos costs to manage the data bringing the total to roughly $4500 per year for one eagle! Our eventual goal is thirty transmitters, but due to the high costs, we have to take it incrementally. Please let us know if you want to help us raise funds for this very worthwhile project.

This technology allows us to track the daily movements of our eagles, during migration, and while on wintering grounds. Once back on summer range we cut the tracking back to a few days a week, until September, when we start all over again. Please see map (facing page) for spring and fall migration routes, from wintering grounds to summer ranges and back down to wintering areas. We excluded the other three eagles, as the map was too cluttered, due to the limited space we have to use in our newsletter. (See our website for periodic updates and maps)

Our partners of this project are Bryan Bedrosian with Craighead-Beringia South, Melanie Smith, GIS analyst with Audubon Alaska and Doug Bonham with Wildlife Computers. Their passion, dedication and expertise, has been essential to the successes of this project. Thank you!

Adult Golden Eagle outfitted with battery powered satellite transmitter, ready for release

GOLDEN EAGLE RESEARCH PROJECTS 2009

Tyler Vero photo

Vince and Step taking wing cord

Tyler Vero photo

Tyler steadies eagle before weighing

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, when we consider simple descriptors such as; mass and wing-chord. However, this is not always the case with Golden Eagles. By collecting DNA and comparing it to our suite of morphological measurements, we hope to identify the most accurate technique for sexing Golden Eagles in hand.

Foot Volume
David Ellis is arguably the leading authority on Golden Eagle Ecology and Natural History in the world today. We were of honored when David approached us to see if we could put to the test his innovative idea for sexing Golden Eagles. David's idea was simple; if you place the foot in a beaker of water, the female foot would displace measurably more water than the male foot. As you might imagine, this is not the easiest procedure, gently immersing the foot of a wild Golden Eagle in a beaker of ice cold water. However, we have worked the technique out and preliminary results are very promising, accurately predicting the gender of all eagles tested!

Wing-loading
In general to determine wing-loading, 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, mounting evidence suggests that the problem persists and the source of the contamination is coming from gut (offal) piles left behind by hunters.
Golden Eagles are opportunistic feeders, known to scavenge offal piles. To date we have lab analyzed blood from 70 Golden Eagles

Jim Lish photo

Measuring footpad length on large adult female Golden Eagle

Mary Fay photo

Riveting USGS band on Golden Eagle

and have found that more than 50% of our sampled eagles had elevated blood-lead levels. This fall 2009 we added another 22 individuals to our sample size, bringing our total to 92. These samples are currently being analyzed for lead by University of Montana chemist Dr. Heiko Langner.

Mary Fay photo

Carefully drawing blood from the brachial vein for analysis

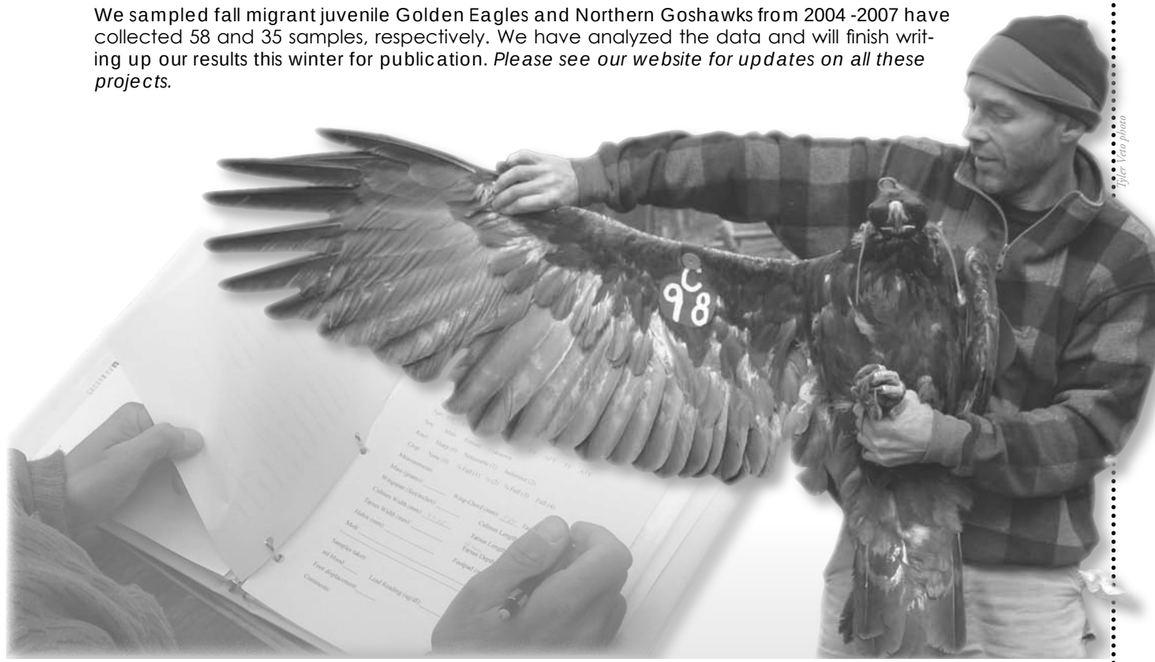
Blood Pathogen Project
Our good friend and colleague Bryan Bedrosian with Craighead-Beringia South put us in contact with toxicologists Dr. Alan Slosberg, with Kimron Veterinary Institute, Israel and Dr. Wilson Rumbeiha with the Diagnostic Center for Population and Animal Health, Michigan State University. In short they have developed a system where by they use several dime sized dried blood spots to analyze for environmental toxins, as well as bacterial, viral and organismic blood pathogens. We are excited about this recent collaboration and are anxious to see what they discover.

Stable Hydrogen Isotope Project
Every fall, thousands of northern latitude raptors migrate through Montana on their annual journey from breeding and natal areas to wintering grounds. Understanding where that raptor originated is our main question. By utilizing innovative sampling techniques, RVRI has been able to more accurately estimate that "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 sampled fall migrant juvenile Golden Eagles and Northern Goshawks from 2004 -2007 have collected 58 and 35 samples, respectively. We have analyzed the data and will finish writing up our results this winter for publication. *Please see our website for updates on all these projects.*

Tyler Vero photo



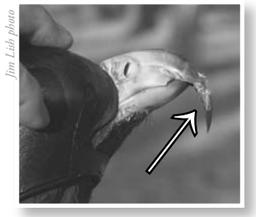
RVRI President Rob Domenech with Golden Eagle C-98

RESEARCH (CONTINUED)

RVRI RECAPTURES BANDED GOLDEN EAGLE...AGAIN!

Recaptures, band returns and re-sightings of previously banded and marked birds are generally referred to as "encounters." Encounters give small pieces of information that help researchers to learn about the fate of the individual and possibly more about the species as a whole. This fall 2009 we had a very exciting encounter, our second ever recaptured Golden Eagle, only it was the same bird from 2008!

Jim Lish photo



The overgrown, cracking beak of a recaptured Golden Eagle

Golden Eagle number 629-51808 seems extraordinary and his story gives testimony to a Golden Eagle's ability to survive under adverse circumstances. First captured and banded Oct 4, 2004 and estimated to be a three-year-old male. He was recaptured Oct 25, 2008 and again Oct 9, 2009 using road-killed deer. In 2004 it was noted that the eagle had preexisting injuries, including a fractured beak, lacerated tongue and three broken toes on the left foot rendering it useless for grasping. Our best educated guess is this bird was involved in collision with a vehicle while feeding on road-killed deer. However it was injured, this bird definitely beat the odds.

Although this is a success story in many ways, perhaps his run is nearing an end. Blood tests in 2008 revealed very high blood-lead levels; 2009 levels were low. However, in 2008 the eagle was captured at the end of open rifle hunting season; in 2009 the capture was prior to the start of the season. Maybe this is why the lead levels were lower this season?

Nonetheless, our eagle's body condition was markedly worse in 2009 than in 2004 and 2008. His weight was two pounds lighter, feather condition was poor and the beak was overgrown and cracked in a number of places. Could this be the cumulative effect of lead exposure over time, or some other cause(s)? At eight-years-old this eagle should have been in its physical prime. It may be though, that eagle 629-51808 will surprise us once again and turn up under our net in the future.

NATIONAL GEOGRAPHIC CHANNEL FILMS WITH RAPTOR VIEW

This fall 2009 we were approached by National Geographic to be part of the filming for an upcoming episode of "Dangerous Encounters" with Dr. Brady Barr on the National Geographic Channel! The feature spotlights "iconic" predators of the American West. After learning about our long-term Golden Eagle research, they felt it would be perfect for their production. They were mainly interested in the capture of a Golden Eagle via net launcher. This made it all-the-more feasible, as Bryan Bedrosian (founder of Trapping Innovations), friend and research partner on several projects with Raptor View, had recently designed his "new" mini-net launcher system. Bryan's launcher was ready in the nick of time for the fall Golden Eagle migration. He had brought a new unit up to Lincoln to test it in the extreme field conditions found on the Front.

Jim Lish photo

Dr. Brady Barr of the National Geographic Channel

Set-up as a last minute venture and with a very strict timetable, we had only two days to film a successful capture of an adult Golden Eagle. This is no easy feat, even when there isn't the added stresses of filming for a nation-wide TV show! In the end, with the hard work of the dedicated RVRI field crew and Bryan's new launcher, we were able to capture two adult Golden Eagles for the show!

Brady's passion for wildlife was soon evident, when we saw how thrilled he was just to see an eagle flying; he practically leapt from the moving vehicle! Brady and the film crew were genuinely interested with all aspects of our Golden Eagle research, but quickly became fascinated with the Golden Eagle Blood-Lead Project. He saw this as a preventable conservation issue and one that viewers would find interesting. With an annual viewer base of more than five million viewers, we are very excited that this program will help bring awareness, on a global scale, to the conservation challenges Golden Eagles are facing in this modern world.

RAPTOR VIEW REMEMBERS

On a sad note, I lost my mother, Sandy Domenech, who was also my best friend in May 2009, to Leukemia. As a mother should be, mine was a very strong, positive, instrumental role model for me and my three siblings, of which I am the oldest. Widowed when I was in the fourth grade, she was nothing short of amazing; she completely and unselfishly dedicated her entire life to raising her children. Never remarrying, she worked tirelessly to see that we had everything we needed, through what were often hard times. I can honestly say, I never saw her buckle under the difficult pressures we faced. In fact, she would give little inspirational commentary on how to hang in there, stay strong and look at the bright side. Her sense of humor and quick wit often made us laugh during these trying times and her undying love comforted us when we needed it. This never changed, not even during her last days.

I credit my mother for instilling in me a deep appreciation for nature in its many forms. Some of my earliest memories are of her pointing out little bits of the natural world. Taking a moment from her seemingly endless household duties, she would pause to show me how the Oriole was weaving its pendulum nest, high in the Silver Maple of our front yard and then weeks later call my attention, as the parent Orioles were vigorously defending that same nest against attacks from Eastern Blue Jays. She would hurry me to the living room window to watch as an American Robin searched for worms after a thunderstorm (which she always loved). No surprise, she was the first to show me a Red-tailed Hawk dropping off its perch to "catch something." During the 1970's we would all take time to squeeze our collective selves on to the couch to watch Wild Kingdom and The Undersea World of Jacque Cousteau, the only nature shows of the time. The best seat was always next to Mom.

As a young boy, I recall shopping with her at the local A&P supermarket ("super" for the time). A series of wildlife encyclopedias had recently come out. There was one volume a month for a total of 22. She saw to it that I got them all. I quite literally read those encyclopedias everyday of my entire childhood. This made for some long stays in the bathroom, which was one of the only places we could find asylum in our crowded little house. I still have all the volumes; they are stacked along my office wall for my nephews to enjoy. Indeed she will be missed by all who knew her, but her love of all living creatures, domestic or wild will carry on for generations. She was very proud of me and a strong supporter of Raptor View.

Mom and me, 1995

Mom and Uncle Dave on Flathead Lake, Summer '92

My family in the early '80's

OSPREY RESEARCH 2009

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 have accumulated behind the Milltown Dam. These contaminants include mercury, arsenic, lead, cadmium, zinc and copper. The dam has been removed and we are continuing our study, now going on its fourth year, to see how the ecosystem and the Osprey respond to this change.

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.

To date we have accessed 36 nests and have sampled and banded 111 nestlings. Results are troubling, with many of our nestlings showing mercury levels 100 times higher than what would be considered toxic in humans.

Recently fledged Osprey testing it's wings

Rob banding Osprey chick (below)

Osprey nest in a Bitteroot Valley snag (above)

OSPREY BALING TWINE PROJECT

Ospreys have the habit of incorporating unusual materials into their nests. We have discovered items such as: ball caps, bungee chords, gloves, shirts, old rusty barbed wire, pieces of tarp and of course lots of baling twine. Unfortunately, baling twine is a serious threat to Osprey. This polypropylene rope is used to tie bales of hay, and it often gets left in fields after people open the bales to feed livestock. We have found baling twine in nearly every nest located in our study area. An Osprey nest that blew down in Missoula contained more than a quarter of a mile of baling twine!

Yet another hazard, a fishing hook embedded in Osprey wing

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. All too often the birds suffer a slow agonizing death of hanging upside down from the nest until they expire. Sometimes they are strangled or starved to death when very young. One fledgling in Helena suffered an amputated foot. Another notable incident involved an adult Osprey that was hit by a car. When the driver stopped to examine the bird, he discovered that it had one of its nestlings, hopelessly tangled to its feet. Both the adult and nestling died in the collision.

We are continuing our efforts to spread the word and distribute our Osprey and Baling Twine educational pamphlets. We are hopeful, that over time, land owners and stewards will step up their efforts to clean up their discarded twine. This is very preventable problem and one we will continue working very hard to remedy.

For more information or for copies of our Osprey and Baling Twine pamphlets contact projectosprey@mso.umt.edu or visit our website and check out our Osprey section at www.raptorview.org.

Dead Osprey chick wrapped in baling twine (below left), Osprey nest (below right)

Osprey fledgling

all photos on pages 14-15, Erick Greene

RESEARCH (CONTINUED)

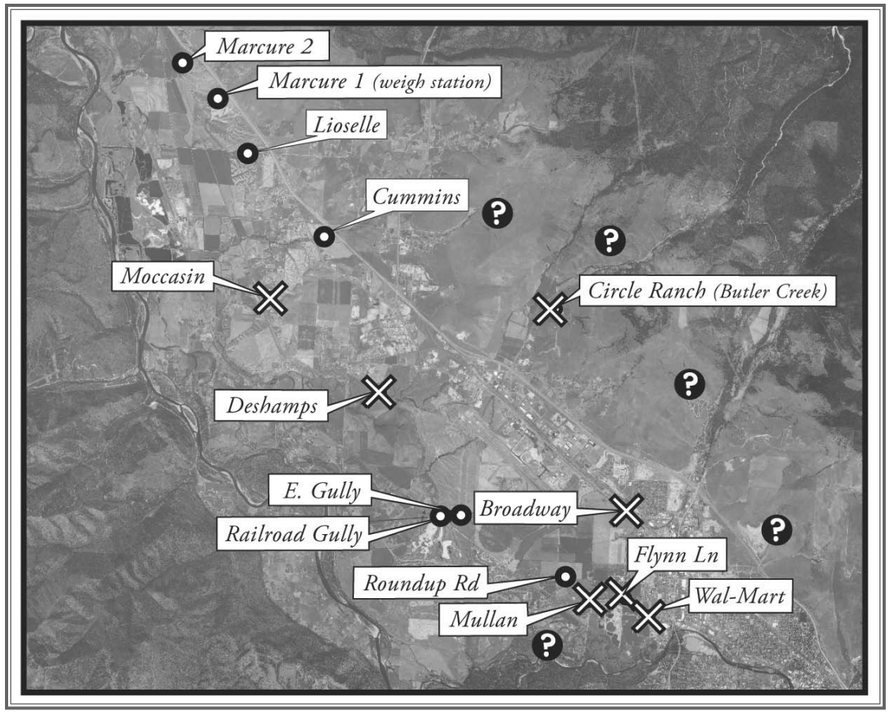
SWAINSON'S HAWK NESTING PROJECT

In Montana the Swainson's Hawk (SWHA) is a "species of special concern." As a grassland specific species, they are dependent on open prairie-like landscape to survive. Unfortunately, it is this specific grassland habitat, required by SWHA and other prairie dependant species that is being threatened through widespread development of the Missoula Valley grasslands, which spans roughly from Reserve Street west to Frenchtown.

Over the last three years, we have found that the number of known SWHA breeding territories has declined. In 2006 and 2007, we located 12 active territories; currently only five of those territories are active. Although, numerous factors may be contributing to this; we view subdivision sprawl and related development as the main cause. In a few short years we have literally watched several nesting locations and hunting areas transformed into residential and commercial developments. To date, we have banded 35 individuals and marked 26 with uniquely color-coded leg bands. These colored bands allow us to identify and track individuals, while learning more about breeding behavior, territoriality, nest site fidelity and survivorship.

In 2009, Five Valleys Land Trust (FVLT) and Five Valleys Audubon (FVA) approached RVRI regarding our SWHA project and sought our input on some specific subdivisions and the possible impacts on local SWHAs. We are now working with these organizations to reach out to developers and land owners to help conserve some of this critical, remnant prairie-grassland habitat.

In 2010, we will be ramping up our SWHA with help from FVLT and FVA, to fill in survey gaps on the Grass Valley. In addition, we will include the surrounding open hillside country, as reconnaissance surveys in 2009 turned up some territorial adults. It is our goal to get as close to a true SWHA census as possible in the Missoula Valley. This important information will be crucial if we are to preserve our remaining local breeding population of SWHA, as well as other Missoula Valley prairie dependant species.



Aerial image of known Missoula Valley Swainson's Hawk nesting sites
? - possible, X - defunct, ● - existing

RAPTOR VIEW RESEARCH T-SHIRTS NOW AVAILABLE!

RVRI now has 100% organic cotton T-shirts available for purchase. We have 2 styles to choose from. They cost $20.00 per shirt, shipping and handling included. Make your check payable to Raptor View Research Institute and specify type, size and number. You can also E-mail us at rob.domenech@raptorview.org and subject your message "T-shirt".

T- Shirt Design #1
Front

T- Shirt Design #2
Back

PARTNERSHIPS & COLLABORATIONS 2009

RVRI continues to develop partnerships and collaborations 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.

We would like to take this opportunity to recognize some of these individuals and organizations:

Our sincerest thanks and appreciation go to Bryan Bedrosian with Craighead-Beringia South; David Ellis; Dr. Alan Shlosberg; Denver Holt with Owl Research Institute; Erick Greene and Heiko Langner with University of Montana; Jim Lish with Oklahoma State University; 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; Ryan Alter of Alter Enterprises; Steve Hoffman, Montana Audubon; Jim Sparks, Bureau of Land Management; Steve Kloetzel, The Nature Conservancy; Pat Shanely, Helena National Forest and Doug Bonham with Wildlife Computers.

2009: A VIEW FROM THE FIELD

Mary Fay photo

Mary Fay of Last Chance Audubon with Golden Eagle

Brian Bedrosian photo

Brooke and Brian with adult Golden Eagle ready for release

Brooke Tanner photo

Fully extended crop on an adult female Sharp-shinned Hawk

Brian Bedrosian photo

RVRI Team poses with Golden Eagle (above)
Stephen Wilson with Eagle C-105 (below)

Jim Lish photo

Bryan Bedrosian with Common Raven

Tyler Veto photo

Brooke Tanner photo

Tail of Harlan's Hawk

Brooke Tanner photo

Light morph Harlan's Hawk

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

Bureau Land Management
Charlotte Martin Foundation
Cinnabar Foundation
Clark Fork Coalition
Craighead-Beringia South
Fanwood Foundation
Fledgling Fund
Five Valleys Land Trust
Helena National Forest
International Osprey Foundation
Kimron Veterinary Inst.
Koret Foundation
LCAO Foundation
Maki Foundation
Michigan State University
Mountaineer's Foundation
MT Fish, Wildlife & Parks
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MT Outdoor Science School
Oklahoma State University
Owl Research Institute
Patagonia
Raptors of the Rockies
S.E.C. Charitable Corp.
The Nature Conservancy
University of Montana
Walker Family Trust
Wildlife Computers
Yellowstone to Yukon

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Northwestern Energy
Quality Supply
R.E.I.
Salmon Logging
Vann's

INDIVIDUALS

From assistants in the field, to detailed lab analysis and everything you could imagine in between; individuals make it happen. We wouldn't make it happen without their support. As always, we make an effort try to recognize everyone. Thanks to all of you!

Aiden Moon
Amanda Ormesher
Anicka Katrina-Hathaway
Becky Lomax
Bob Walker
Bonnie Snavely
Brooke Tanner
Bryan Bedrosian
Charlie Simpson
Christa Weathers
Dave Taylor
David Lopez
Denver Holt
Erick Greene
Heiko Langner
Fred and Cathy Tilly
Jennifer Calder
Jessica Kato
Jerry and Jane Densel
Jill Learned
Jim Lish
Jim and Marci Valeo
Katie McKalip
Kathy Gray
Kathy Townsend
Kelly Castleberry
Mat Seidensticker
Matt Young
Melanie Smith
Nate and Whitney
Schwab
Pat Little
Pat Shanley
Paul Nisbet
Rob Dillon
Rob Magana
Ryan Alter
Stan Lucier
Stephen "Step"
Wilson
Steve Hoffman
Tim Good
Tim and Noel
Nesmith
Tyler Veto
Victoria Parks

Tyler Veto photo

Dark morph Harlan's Hawk