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the COUGAR FUND

winter 2007/08

An Extraordinary Moment

by Sue Cedarholm

Holding binoculars to my eyes and searching the hillside, I still could not see the cougar. Standing next to me, Tom Mangelsen described her location. "See that darker bunch of sagebrush? Near the top on the left there is an open spot of snow, she is sitting right there." I scanned the sagebrush again—my heart stopped. I found her. I was eye-to-eye with the most beautiful creature I had ever seen. Goosebumps rose on my arms, not from fear but from the sheer amazement that I was seeing a cougar in the wild. The sight was more incredible considering that we were standing in the parking lot of a hotel looking at a hillside rising from the town of Jackson, Wyoming.

Earlier that morning Tom had heard that one of Craighead Beringia South's radio-collared cougars had been seen on a butte near town. Tom called me to ask for some camera gear from his office. It took us several hours to locate the young cat known as F30. Finally, Tom noticed a couple of magpies circling above the tall sagebrush and he looked more closely through the binoculars and spotted the cougar. She was guarding the remains of a mule deer kill.



We observed the cougar for most of the afternoon. She sat near her carcass, watchful, keeping her eye on the occasional raven that flew overhead. She would lie down and nap, stretching in the sun just like a housecat. We could not tear ourselves away. Later, just as the sun was setting, we moved to a higher location where we could see her across the hillside. According to the range finder we were about 175 yards away. She had not left her kill all afternoon. At dusk a small herd of mule deer wandered just

below where the cougar was sitting. We felt sure that the situation would get very interesting. The deer appeared to be totally unaware of the cat. Two does and two fawns approached even more closely. When they were nearly on top of the cougar, less than twenty yards, the deer finally sensed her presence and became very nervous. We held our breath, sure that she would charge, but instead she just watched them. Suddenly the deer spooked and bolted over the top of the butte. It was incredible to see that the cougar did not charge the deer – she seemed satisfied with what she already had, even though the carcass had to be frozen as hard as stone.

As darkness fell, the New Year's Eve fireworks show began, silhouetting the cat, ironically in front of the ski run called "Cougar" at the Snow King ski area. We could not believe what a special day we had experienced. Could there be a better end to the year? Would we see the cougar again soon or was this just an extraordinary moment, not to be repeated?

A few weeks later we were lucky enough to observe F30 on the National Elk Refuge where she guarded an elk carcass from coyotes and a badger, sunning under a tall spruce, and sleeping in a cave high on a cliff only to slink out at nightfall. This cave was just below the cougar den where Tom had observed a mother and

three kittens during the winter of 1999. Several times she visited the old den and we wondered if she was the granddaughter of the cougar called "Spirit" who was the inspiration for the Cougar Fund. We hoped that at nearly two years old she might be looking for a den site of her own to raise kittens. My respect and wonder at this gorgeous animal increased beyond belief after my good fortune to see her in her element.

Continued on next page...

from the Executive Director

Shawn Meisl

Joining the Cougar Fund in May put me squarely into the middle of discussions with Wyoming Game and Fish personnel as they drafted cougar hunt season regulations for the next three years. Following the lead of our seasoned board members, I met with WGF staff, drafted letters to comment on the regulations and immersed myself in past and current details about

into teaching children about ecosystems, working on behalf of cheetahs (the graceful feline of Africa and the Middle East), a new scientific approach to tracking wildlife movements, and comments on South Dakota cougar management. For a wider view of cougar management across the west, there is a section that offers updates on each western state.

The Cougar Fund is sure that the answers to cougar issues lie in education, science, public awareness and policy management. We will align upcoming projects with these themes in our effort to protect Americas' Greatest Cat.

cougars and harvest (kill) numbers. Along the way, I talked to many incredible people whose lives put them

in the world of puma concolor—from biologists and ranchers, to agency personnel, hunters and wildlife enthusiasts. While their opinions on managing cougars vary greatly, there is no doubt in my mind that big cats warrant the time and energy spent on them.

The Cougar Fund is convinced that the answers to cougar issues lie in education, science, public awareness and policy management. We will align upcoming projects with these themes in our effort to protect Americas' Greatest Cat.

Thank you for your phone calls, emails, visits to our office, and for your continuing support. Cougar issues are complex, and your thoughts and assistance are a great help. Take the time to get outside as the days grow colder. Perhaps you will catch a glimpse of a tawny tail slipping into the brush.

Shawn Meisl
Executive Director

The cougar is a powerful representative of the freedom that we so often seek in the wild.

Sue Cedarholm's article about the female who recently graced us with her presence will give you a sense of the wonder in such a visit. Other writers featured in this newsletter will give you insights



Continued—An Extraordinary Moment

Epilogue: Wyoming Game and Fish relocated F30 in early September after a homeowner, adjacent to the National Elk Refuge, complained that she was peering through his family's window. The cougar was treed, captured and moved to the western side of the Tetons. She was discovered dead on September 20th. Researchers said she died from starvation and stress most likely caused by her relocation.

Sue Cedarholm is an artist and photographer and also works as Tom Mangelsen's personal assistant.



Agency's Cougar Hunt Lacks Data

by Judy Love



South Dakota Game, Fish and Parks (GFP) has once again increased the harvest for its annual mountain lion hunting season. The state's first season in 2005 saw thirteen cats harvested, including six males and seven females. In 2006, hunters killed sixteen, eight of each sex. This year, GFP set the limit at thirty-five total animals and raised the female subquota to fifteen.

GFP justifies the changes, claiming an ever-increasing cougar population. While just two years ago they estimated that 145-165 cats roamed the hills, now they say there are some 200-228 lions, including fifteen to twenty-five adult males, seventy-five to eighty adult females, and 110-130 dependent young. However, the agency has not made its research data available for review.

The Black Hills Mountain Lion Foundation (BHMLF) opposes the increases because the state's cougar population was nearly wiped out in the early 1900s, and South Dakota still has very few cats compared to other states that allow hunting. Black Hills cats are also isolated geographically due to terrain, and the GFP admits that both immigration from other areas and natural mortality are unknown. In addition, documented mortality is high. Last year, there were forty-six deaths recorded, including sixteen from hunting, twelve GFP removals and euthanizations, six from motor vehicle accidents, five by snaring, and seven due to other causes.

Another change in this year's season involves the area outside the Black Hills known as the Prairie Unit. Last year, the state allowed property owners to kill one lion on their own land. This year, the rule has been changed so that anyone can hunt lions on the prairie. GFP has not

done research in the Prairie Unit, and its spokesmen have said that the agency is not concerned with managing lions in that area.

The Prairie Unit includes the Pine Ridge Indian Reservation whose wildlife staff is conducting its own mountain lion study. The Oglala Sioux tribe believes there are six to eight lions, including breeding females, on the reservation and has asked that the reservation and a checkerboard of privately owned property be excluded from the hunt. The GFP has ignored the tribe's request. Any lions that wander off tribal land can be killed, ultimately destroying or severely limiting the breeding capacity of the Pine Ridge cougar population.

The BHMLF sees GFP's cougar management plan as lopsided, with killing cougars as its only course of action for lion-related problems, real or perceived. It has used public concern about human/lion confrontations and livestock depredation as an excuse to promote its trophy-hunting plan, although there has never been a documented attack by a lion on a human and only a few incidents of lions preying on livestock in the state.

According to the BHMLF, more educational programs are needed to change public attitudes toward lions and help people better protect themselves and their domestic animals in lion habitat. Research is also needed to establish corridors to promote cougar population exchanges and protect their habitat.

Judy Love is a member of the Black Hill Mountain Lion Foundation, an organization that The Cougar Fund partners with on policy issues.

Notes from the Field:

Big Cat Conservation: Africa's Cheetah

by Howard W. Buffett



A short two-hour drive north of Johannesburg's international airport in South Africa will find you bouncing down a dirt road in what seems like the proverbial middle of nowhere. Eventually, you will come to a sign that reads Jubatus Cheetah Reserve—Private Research Facility. Pass through the gate and the winding path leads to one of South Africa's few private nature reserves focused almost entirely on the research and conservation of the cheetah.

Jubatus Cheetah Reserve (JCR), originating from the cat's scientific name *Acinonyx jubatus*, was assembled in 2001 with the purchase of five contiguous farms in the Limpopo Province of South Africa. JCR is the primary

Originally standing around 3,500 hectares (8,648 acres), many of JCR's research projects focus on the close observation of a few members of the cheetah species for data collection rather than for breeding or housing large numbers of the cat. This becomes apparent as you enter the reserve and drive past the few barren pens used to hold the cheetahs between transports and during veterinarian care. There's not a cheetah in sight.

Heading up to the main compound on the dusty road, it is obvious that this time of year is South Africa's winter. The air is dry and crisp though warm in the sunlight, and layers of dust cake everything, including the leaves on the trees along the side of the road. Most everything is a

After reaching speeds of around 70 mph, cheetahs require a considerable recovery time before they can begin feeding.

project of the Nature Conservation Trust, and is funded by the Howard G. Buffett Foundation, a U.S.-based private organization and supporter of the Cougar Fund.

brownish gold, not only from the dust, but because the rains haven't visited in months. It's prime breeding time for a fire, something to always keep in the back of your mind.

We settle in and then it's off to search for cheetahs, which are typically spotted earlier the same day or the night before. Driving across the various networks of dirt roads that connect the farms, aptly titled after U.S. states due to their shapes, the beat-up Land Cruiser barrels along past zebra, wildebeest, some kudu, and, perhaps, a family of warthogs.

After spotting a lone waterbuck in the dried-up dam and an adult male rhino recently separated from its newborn calf, it's time to break out the tracker.

As a result, it may be that the long-term viability of the species will rest in free-roaming or partially free-roaming conditions. This situation is not unlike that of America's cougar whose wild habitat is being fractured at an alarming rate.

A small implant under the cheetah's skin along its back powers a radio transmitter that emits a faint beeping and indicates that we're near the cheetah. This is necessary in a research setting where one could spend weeks searching for the animals without such guidance.

Why it is so difficult to locate a few cheetahs on a small, fenced, research reserve? This is best explained because the area's habitat is well-suited for the cheetah—a good mix of open plains, sparsely wooded pieces, as well as densely forested shrub area. We find that most successful cheetah take-downs occur on the border between these areas where prey must slow down to navigate the shrubbery and where the greenery provides some cover for the cheetahs before the chase.

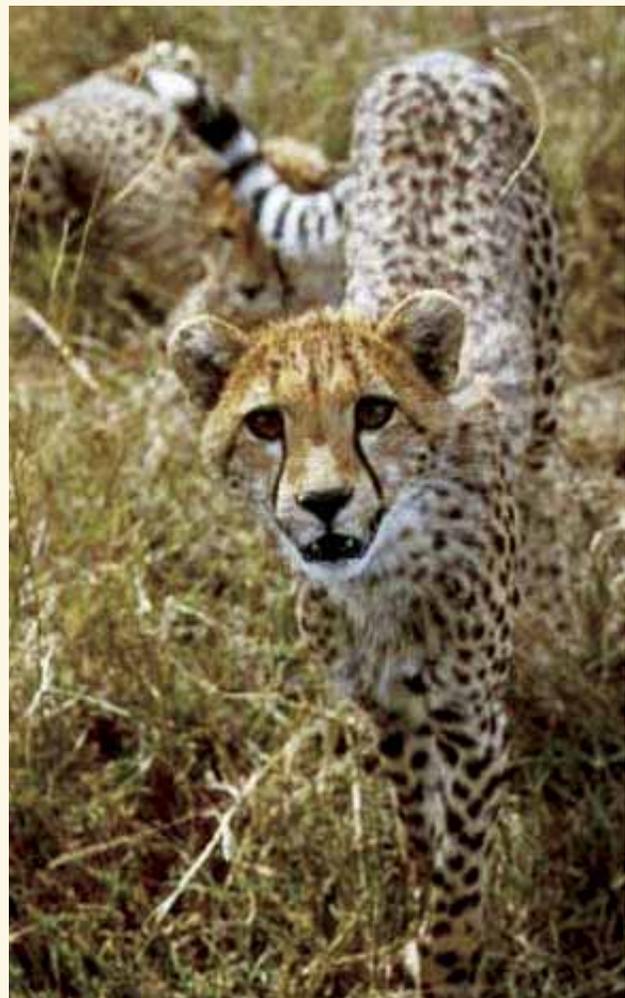
Cheetahs instinctively take fallen prey into the wooded areas to hide their kills from other predators, making it that much more difficult to spot the animals. After reaching speeds of around 70 mph, cheetahs require a considerable recovery time before they can begin feeding. Without cover, this is a prime chance for a lion or jackal to steal their kill.

Commonly identified as the world's fastest land mammal, the recent history of the cheetah and its struggle to survive in the wild is one that is not told often enough. With numbers of free-roaming cheetah having fallen from approximately 100,000 at the turn of the 20th century to nearly 12,000 animals today, the species is facing what some experts predict as almost certain extinction for the cats in the wild.

Further complicating this matter is the fact that many cheetah face difficulty living for extended periods of time in captivity due to the fragility of the species. Liver disease is a common cause of death, as is mishandling of the animal or improper living conditions in zoos around the world. As a result, it may be that the long-term viability of the species will rest in free-roaming or partially free-roaming conditions. This situation is not unlike that of America's cougar whose wild habitat is being fractured at an alarming rate.

To this end, one focus of JCR's research has been aimed at evaluating the necessary and appropriate amount of minimal land that one or a few cheetahs can survive on without impeding their ability to live naturally.

Howard Buffett sits on the board of the Cougar Fund.



Wildlife Community Suffers Loss of a Leader

by Scott Sandsberry

Long before Rocky Spencer became a tragic news story, his love for wildlife science—specifically regarding cougars, work for which he was nationally renowned—was already enough of a story to inspire others to follow his path.

Will Moore of Yakima was in college studying law and justice when his mother showed him a Seattle newspaper article about Spencer's research work with cougars.

"Rocky was a pretty big personality," Moore said Wednesday. "You could tell he loved what he was doing. He was influential in people's opinions, and he influenced my opinion. I'd always been into wildlife, and I decided: This is what I wanted to do. I wanted to go into wildlife biology."

And so he did. Now a Yakima-based wildlife biologist with the Washington Department of Fish and Wildlife, Moore

was working on September 8th on a project with Spencer and several others to relocate bighorn sheep from the Yakima River canyon to a Washington State University research facility.

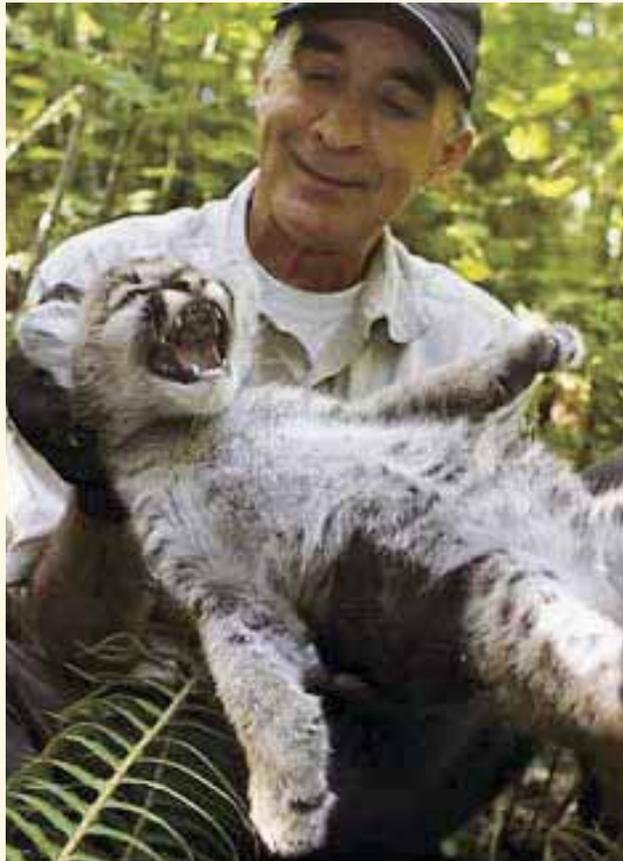
Spencer, along with a WSU veterinary student and veteran helicopter pilot Jess Hagerman were working as a team when Spencer exited the craft, something he'd done literally hundreds of times on various wildlife projects. This time, though, the helicopter had landed on unlevel ground and Spencer, 55, accidentally walked into the craft's rotating blades, killing him instantly.

That was the news story: Helicopter accident kills biologist.

But the ripples of Spencer's death go far beyond that simple headline.

In wildlife biological circles and cougar-affiliated groups, Spencer's death marks a huge loss. His passion for his work—and for ensuring that cougar management is based on science, not politics—was well-known, and not just in the Pacific Northwest.

A book being published in November, "Listening to Cougar," was already on its way to printers when word of Spencer's death reached one of its editors, Cara Blessley Lowe, co-founder of The Cougar Fund in Jackson, Wyo. She immediately saw to it that the book will be dedicated to Spencer, who, as the dedication will read, "spent his life educating people how to peacefully co-exist with wildlife."



"There are so few people working on the agency biology side that are really doing impactful work—work that really makes a difference in terms of understanding a species," Lowe said Wednesday in a telephone interview. "Rocky was on the forefront of that."

"And that's why his loss falls especially hard for so many of us, because he really bridged the conservation community and the wildlife agencies in terms of looking at the species."

Cle Elum-based WDFW biologist Gary Koehler, who has directed the Project CAT research for several years, recalled Spencer as having been a voice of reason in the agency's management of cougars, always focusing on the agency's "need to be educators instead of responding in a knee-jerk reaction." "He was seeing the animal. He knew the animal, he knew the cougar, their biology, their ecology," Koehler said. "And this was not something that (had been) part of the mix, the input into the way the state manages cougars and deals with problem cougar issues and potential conflicts. He had that understanding of cougars that doesn't come from harvest spreadsheets or harvest data, or our traditional understanding about managing wildlife."

And Spencer's focus, Koehler added, was that "we have to be able to share this information with the public so they're not responding (to the presence

"He and Jess were really an integral unit," said WDFW state elk specialist Scott McCorquodale, who has also hired Hagerman as the pilot for many of his own elk-tagging projects with Yakima-area elk herds. "There were times when Jess had to go out of state to do operations, where Rocky would actually take time off from work to go be the second person.

"Those of us that have been around and seen what the standards are know (Hagerman) is pretty much regarded as the best."

So, too, was Spencer—especially when it came to hands-on projects with wildlife.

"He really had a passion for that, really enjoyed that a lot," McCorquodale said. "Clearly, I think by everybody's regard, he was one of the elite, one

"We teach our children not to speak to strangers and what to do if they encounter one. We should also teach our children about the outdoors and, when we contact these large carnivores, how to behave. It's another part of the learning process. And it goes for adults as well."

of cougars and other natural predators) with fear." Spencer talked about that very thing in a 2003 interview with the Herald-Republic.

"You've got people saying these woods are full of cougars, and this feeds the hysteria," Spencer said. "We teach our children not to speak to strangers and what to do if they encounter one. We should also teach our children about the outdoors and, when we contact these large carnivores, how to behave. It's another part of the learning process. And it goes for adults as well."

A terrible irony in Spencer's death is that he was working with Hagerman, a good friend with whom he had partnered on countless wildlife missions darting or tagging elk, trapping cougars or bears or relocating animals, as they were doing with the bighorn sheep on Saturday. Hagerman is roundly regarded as one of the region's top helicopter pilots, particularly when it comes to working in difficult terrain.

A former Vietnam chopper pilot, Hagerman had been one of the first pilots to venture into the blowdown zone after the 1980 Mount St. Helens eruption, where he was credited with saving the lives of several people injured or badly burned in the blast.

of the most skilled we'd ever put in the field. He not only did that stuff on his own district (Spencer was based in the rural eastern end of King County), but was more than willing to go elsewhere to help other people do it ... which is what he was doing last weekend."

Those who worked with and admired Spencer, an upbeat, gregarious and social sort, have taken solace in knowing that he died doing what he loved the most -- working with wild animals.

"There are risks," Moore said. "There are people who love the resource and are willing to take those risks to protect the resource. And Rocky and Jess are obviously those kind of people."

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State of the States

An update on
the cougar—
status and
hunts across
the west.



A **Arizona:** Arizona manages hunting quotas based on areas where the state agency identifies overpopulation and perceives that cougar predation affects bighorn sheep or deer. In the Kofa National Wildlife Refuge, Arizona Game & Fish (AGFD) killed a collared cougar and announced intent to kill any cougar suspected of bighorn sheep depredation, despite numerous other factors that affect bighorn sheep (drought, disease, hunting, and removal of herd members for translocation). In the Black Mountain Mountain Lion Management Plan, AGFD announced intent to remove 70% of the cougar population to protect bighorn sheep. A license costs \$25.50 for residents; nonresidents pay \$113.50.

California: While more than 90,000 square miles of cougar habitat seems sufficient in California, an increasing number of the state's large suitable habitat is fragmented by the frenzied pace of development. As a result, public attitudes regarding cougars continue to shift depending on how local news organizations portray this wide-ranging, secretive carnivore. California does not allow sport hunting of cougars.

Colorado: The Colorado Division of Wildlife (DOW) estimates that nearly 3,500 lions inhabit Colorado. Recently, the DOW hired Dr. Ken Logan to launch a ten-year, \$2 million lion study on the Uncompahgre Plateau. Dr. Logan and the Four Corners Houndmen Association conduct clinics for lion hunters, teaching them to distinguish between toms and females. Few agencies or individuals expend resources to study or protect cougars so Colorado is a notable exception. A license costs \$41.00 for residents; nonresidents pay \$251.00.

Florida: As of 2006, biologists estimate roughly 80-100 Florida panthers remain in the wild, primarily in the southwest portion of the state. The panther's greatest threat is habitat loss and vehicle collisions. The death of three panthers in June drove the yearly total of panthers killed by vehicles to fourteen. Florida panthers are classified as endangered and are not hunted.

Idaho: The Idaho Department of Fish & Game is unable to accurately estimate the cougar population in

the state. Currently, cougar management guidelines limit the number of female kills in certain regions. Beginning August 2007, all quota and nonquota units will be open for harvest. Residents pay \$12.75 for a license and \$11.50 for a tag; nonresidents pay \$141.50 for a license, \$151.75 for a tag.

Montana: Montana Fish, Wildlife & Parks implemented an extensive cougar study, with conclusions available in 2008. The study began in 1997, but it was in 2005 that breakthroughs in DNA research increased data collection efficiency and techniques. Currently, about 300 lions are taken across Montana each year. There is a split season for cougar – Fall and winter. A tag costs \$19.00 for residents; nonresidents pay \$320.00.

Nevada: The Nevada Department of Wildlife has liberal cougar hunting regulations as they believe their cat population is increasing. Quotas are established for Nevada's three regions totaling 349 cougars, but an unlimited number of tags are issued each year. In March 2007, a bill that did not pass proposed an open season on cougars with no restrictions, and allowed aerial gunning and use of spring guns, set guns, and "other devices for destruction." Residents pay \$29.00 and non-residents \$104.00.

New Mexico: In September 2006, the New Mexico Game Commission (NMGC) voted to reduce the number of cougars that hunters could kill. Population estimates are now based on habitat mapping specific to cougars and NMGC personnel will evaluate the age and sex of cougars killed to estimate the cougars' health. If the percentage of cougars killed in any unit is 20% or more for two years in a row, female subquotas may be implemented. A license costs \$43.00 for residents; nonresidents pay \$290.00.

North Dakota: As of August 2007, the North Dakota Game & Fish Department expanded the state's hunting season and divided the state into two hunt zones one zone with a limit of five cougars and the other with no restrictions on how many cougars can be killed. Only three years ago, the state acknowledged that there might be a viable cougar population based on sightings from the public. At that point, the NDG&F implemented

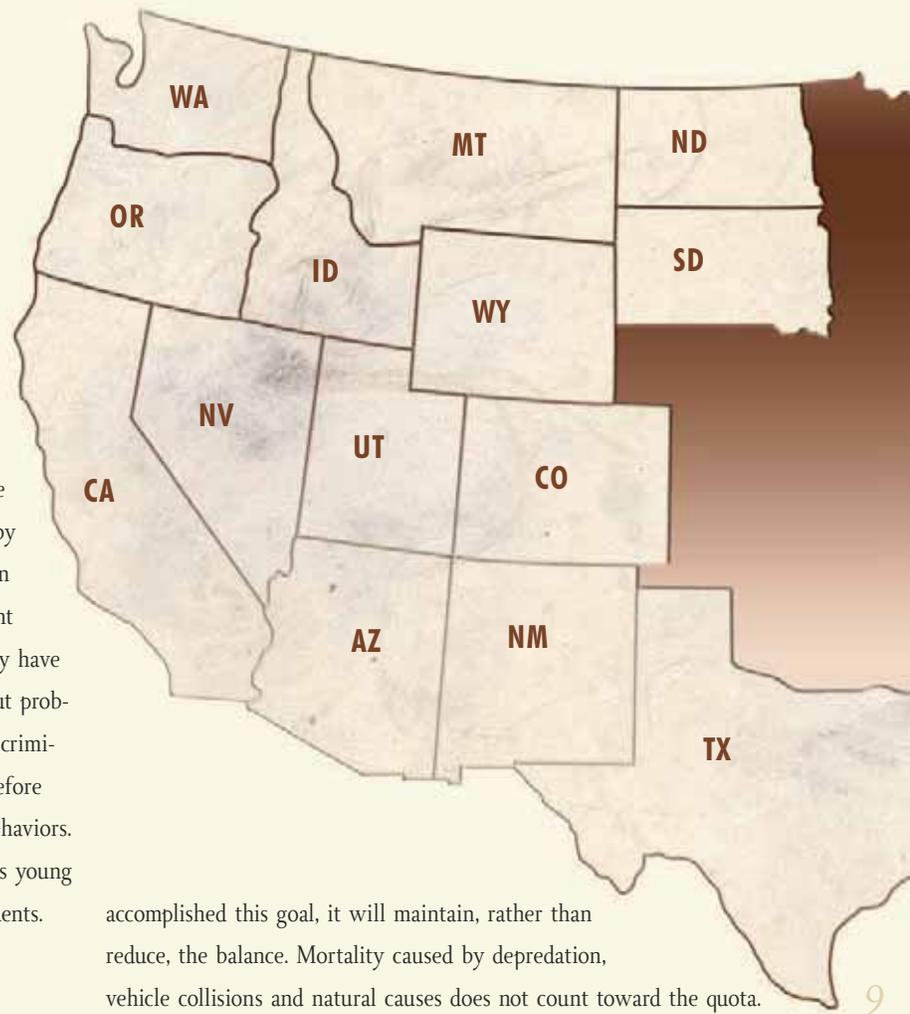
an “experimental” hunting season with a statewide limit of five. Cougars killed by the department or private landowners as well as roadkill, incidental deaths by trapping or lions taken on Indian lands were not counted towards this quota. North Dakota residents pay \$8.00 per tag.

Oregon: A law signed on June 27, 2007 allows hound hunting of cougars, overturning a ban enacted by voters in 1994. The new law permits the Oregon Department of Fish & Wildlife to train citizens to act as agents on its behalf, using hounds to hunt the large cats. If the number of cougars drops to 3,000 or less, as determined by surveys, the hunts will stop. The goal of the new law, in conjunction with Oregon’s Cougar Management Plan, is to kill cougars that might attack people or livestock. Scientists, however, note the new law may have the opposite of its intended effect, resulting in more complaints about problem animals. Unfortunately, hunters permitted to shoot cougars indiscriminately, have often killed females and older males. If a mother dies before cubs are self-sufficient, the cubs do not learn appropriate hunting behaviors. When the older toms die, young males move into their territory. It is young toms with whom humans tend to collide. A tag costs \$10.00 for residents.

South Dakota: Only four years ago, the South Dakota Game Fish & Parks removed the cougar from the state’s threatened and endangered species list. Now, despite the lack of data and scientific evidence to reflect actual population numbers, a legislative committee approved the SDGF&P Commission’s plan to increase the number of cougars killed to 35, with a female subquota of 15. In 2006, the maximum number of lions that could be killed was 25, with no more than 8 females shot. Only residents can obtain a license at a fee of \$15.00.

Texas: There is currently an open season on cougars in Texas. Texas Parks & Wildlife does not have population estimates and relies on sighting, whether verified or not. The state claims that the population of cougars is steadily increasing, despite the loss of habitat and fragmentation that is occurring throughout the state and a lack of scientific data. An average of 96 cougars are harvested every year. Residents pay \$23.00 and non-residents \$300.00.

Utah: Utah’s Division of Wildlife Resources (DWR), in tandem with the Regional Advisory Councils (groups consisting of land managers, politicians, sportsmen and environmental organizations), make decisions on cougar management. They have set a quota of approximately 300 cougars to be hunted 2007-2008. The state has made efforts to reduce the cougar population in past few years as a prey management tool. Now that the state has



accomplished this goal, it will maintain, rather than reduce, the balance. Mortality caused by depredation, vehicle collisions and natural causes does not count toward the quota. A license costs \$29.00 for residents; nonresidents pay \$154.00.

Washington: More than 100 cougars have been marked with GPS collars at four locations to help understand their behavior, reproduction, predation, and effects of hunting and development on their populations. About 200 cougars are harvested per year and development continues to encroach into cougar habitat in the state. Tags are sold as add-on items for \$5.

Wyoming: The Mountain Lion Management Plan adopted by Wyoming Game and Fish (WGFD) was a collaborative effort and is one of the best in the country. The hunt season setting regulations, however, use the plan loosely to make management decisions. While there is field research provided by an outside organization that indicated a decline in the female population as well as recruitment in northwest Wyoming, WGFD did not implement a lower female subquota or reduce hunt quotas to reflect the data. Instead, hunt quotas were raised in the state from 309 to 328. In the Black Hills area, the quotas were arbitrarily doubled by dividing one hunt area into two areas. Resident fees are \$25. Non-residents pay \$301.

If you have updated information in your state, we would be interested in hearing from you. Contact the Cougar Fund at info@cougarfund.org.

Landscape Ecology Conserves Cougars and their Habitats

by Brett G. Dickson

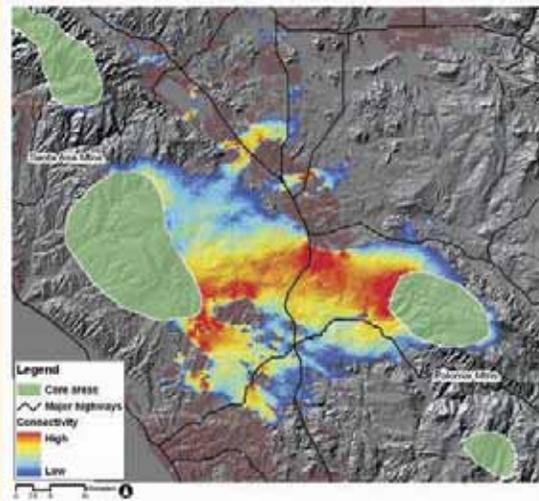
Landscapes are mosaics of vegetation, terrain, and human influence. They affect the behavior and distribution of their inhabitants and encompass the resources that sustain populations. The science of landscape ecology focuses on components and processes that occur over an exceptionally large area, such as wildlife habitat and movement. In the context of conservation, landscape ecologists are concerned with understanding the single greatest threat facing our native flora and fauna today—the loss and fragmentation of essential habitat and how this lack of connectivity affects sensitive species.

Models of landscape connectivity are used to predict the ability of flora and fauna to successfully navigate their environment and to identify critical areas for protection. To guide the design and location of these areas, land managers require specific information about the characteristics that help or hinder the linkage of critical habitat and the maintenance of population core areas, including vegetation, topography, and barriers created by humans.

I am collaborating with Drs. Rick Hopkins of the Cougar Fund and Brad McRae of the National Center for Ecological Analysis and Synthesis to investigate the impact of urbanization on cougars and their use of habitats in southern California. Ultimately, we hope to provide creative ways to address this sensitive conservation issue.

We are using simple electronic circuit theory to create a model of connectivity to show how cougars disperse within a 36,000-km² landscape in southern California, one of

the fastest growing regions in the country. Our model equates habitat patches on the landscape to circuits on an electronic circuit board. Varying degrees of “resistance” are assigned to habitat patches based on criteria, such as the number and type of elements that can potentially fracture an area. Greater connectivity, or “conductance,” between cougar population core areas is predicted when more connected pathways are available and resistance is lowest.



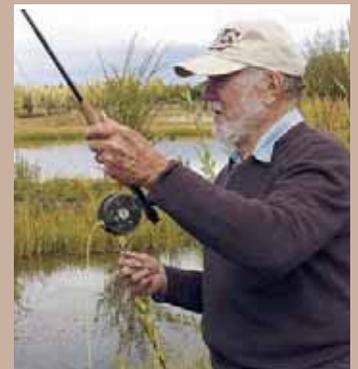
Our research is allowing us to identify the most suitable pathways for cougars in the region and target “pinch points” in need of greater conservation attention. The results provide a strong foundation for the development of testable hypotheses about habitat connectivity for cougars and are, in effect, tools for the science-based management of large landscapes.

Like many wide-ranging carnivores used as focal species for conservation planning, cougars require space to conduct their activities, including reproduction and dispersal. The science of landscape ecology has emerged as a discipline well-suited for studying individual animals and populations of species whose environmental interactions occur over broad areas. Because these interactions can be difficult to untangle and conservation scenarios need to cover large acreage, landscape ecology provides the framework necessary to apply novel solutions to complex and pressing conservation problems.

Brett G. Dickson, Ph.D. is a landscape ecologist and a science advisor to the Cougar Fund.

On October 1, legendary artist **Bob Kuhn died** in his home in Tucson, Arizona at the age of 87. Bob grew up in Buffalo, New York where he became interested in animals at the Buffalo Zoo. After attending Pratt Institute to study design, anatomy and drawing, Bob spent the next thirty years as an illustrator for most of the top outdoor magazines. He eventually turned his artistic talents to gallery painting and became a name synonymous with wildlife art and excellence.

Bob served as an advisor to The Cougar Fund and co-founder Tom Mangelsen writes, “Bob Kuhn was a man of extraordinary vision and talent whose paintings of wildlife and the natural world are unsurpassed. Bob had a special fondness and appreciation for cougars and was one of their greatest champions. His paintings brought light, understanding and magic to the elusive cats. We will miss Bob’s inspiration and laughter but his life’s work and spirit will be with us always.” Our sympathies go out to Bob’s family and we express our thankfulness for Bob’s lasting heritage to the world of wildlife.



Of Cougars and Whales

by Ron Hirschi



What do cougars and whales have in common? The kids in Wilson, Wyoming will tell you that whales and cougars are linked by watersheds.

My watershed work with kids began in Pickerington, Ohio in coordination with a wonderful art teacher, Dr. Mary Sheridan. Mary and I encouraged Ohio kids to use their surroundings as a way to understand how their lives are connected to others. Beginning with the community's Big Walnut Creek watershed, the kids began to study water and water life, learning how a little wetland on their school grounds can help their local stream's water quality.

Although 2,000 miles from the sea, the kids were really excited to discover that downstream of Big Walnut were the Ohio and Mississippi rivers and eventually – the sea. Their little stream was part of a bigger, more fantastic Whale Watershed. Their interest in learning skyrocketed, sparking writing, art, and fun. Over 800 kids collaborated to write and illustrate a forty-foot long accordion-fold book called *Whalestreet*.

A short time later, I was invited to write and make art with students at Wilson School in Wyoming. Tracy Poduska, principal at Wilson contacted me because of my collaborative work with photographer Tom Mangelsen and because she had worked with me in Pickerington. Tracy also brought in artist Jocelyn Slack to help students begin a "big book" modeled after *Whalestreet*.

Wilson kids dove in to create a magnificent folding book, *Snake to the Sea*. Like *Whalestreet*, the watershed story begins in the headwaters and flows to the ocean.

The Rockies loom large on some pages and the Snake River runs through in colorful swirls of paint. The story is illustrated with wildlife no longer found in the eastern United States and serves as a reminder that the Rocky Mountains are a truly a sacred place.

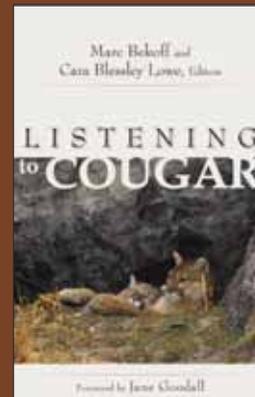
Some of the kids working on the two big books expressed their hopes and thoughts in "little books" that fit inside pockets attached to the bigger books. Many of these little books are natural history and ecology lessons about a favorite animal. When seen together, the result is like an ecosystem. The complete watershed plays out as the accordion pages unfold to show eagles flying and cougars pouncing.

Through *Snake to the Sea*, Wilson kids share their love of a place still home to cougars, bears, and wolves. They understand that the Snake River flows downstream to the sea, connecting them in intimate ways with whales, and with kids as far away as Ohio. When I bring these big books to other schools, more kids will add pieces to the big pages. We can spread the word about threatened cougars, grizzlies, and other species kids can help protect.

Two Wilson students told a story that runs through all the pages of *Snake to the Sea*. They say that a raven flew down one day with a message. The message was delivered to kids and animals and told how each of them needed to care about the watershed, from mountains to seashore. I believe that the Snake River watershed and the needs of cougars are in good hands after listening to their words.

*Ron Hirschi is a well-known author of many children's books including *Lions, Tigers and Bears* and *Searching for Grizzlies*.*

Cougar Fund co-founder Cara Blessley Lowe and board member Marc Bekoff have published a book which debuts in November called, *Listening to Cougar*. This collection of essays from writers, biologists and wildlife specialists highlights the mystery and allure of cougars.



The Cougar Fund helped to transfer these orphaned kittens to the Cheyenne Zoo. The better solution is for agencies to provide hunter identification courses across the west so that hunters do not mistakenly kill females with kittens.

Wanted: Your Cougar Photos

The Cougar Fund will pay \$100 to a photographer who submits a live cougar photo that we use in one of our publications. High resolution images of wild and free cougars in nature only. Please no zoo images, game farm images, and/or any other images of captive cougars. Submit via mail, or email to info@cougarfund.org.

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