

# WILDLIFE RESEARCH INSTITUTE

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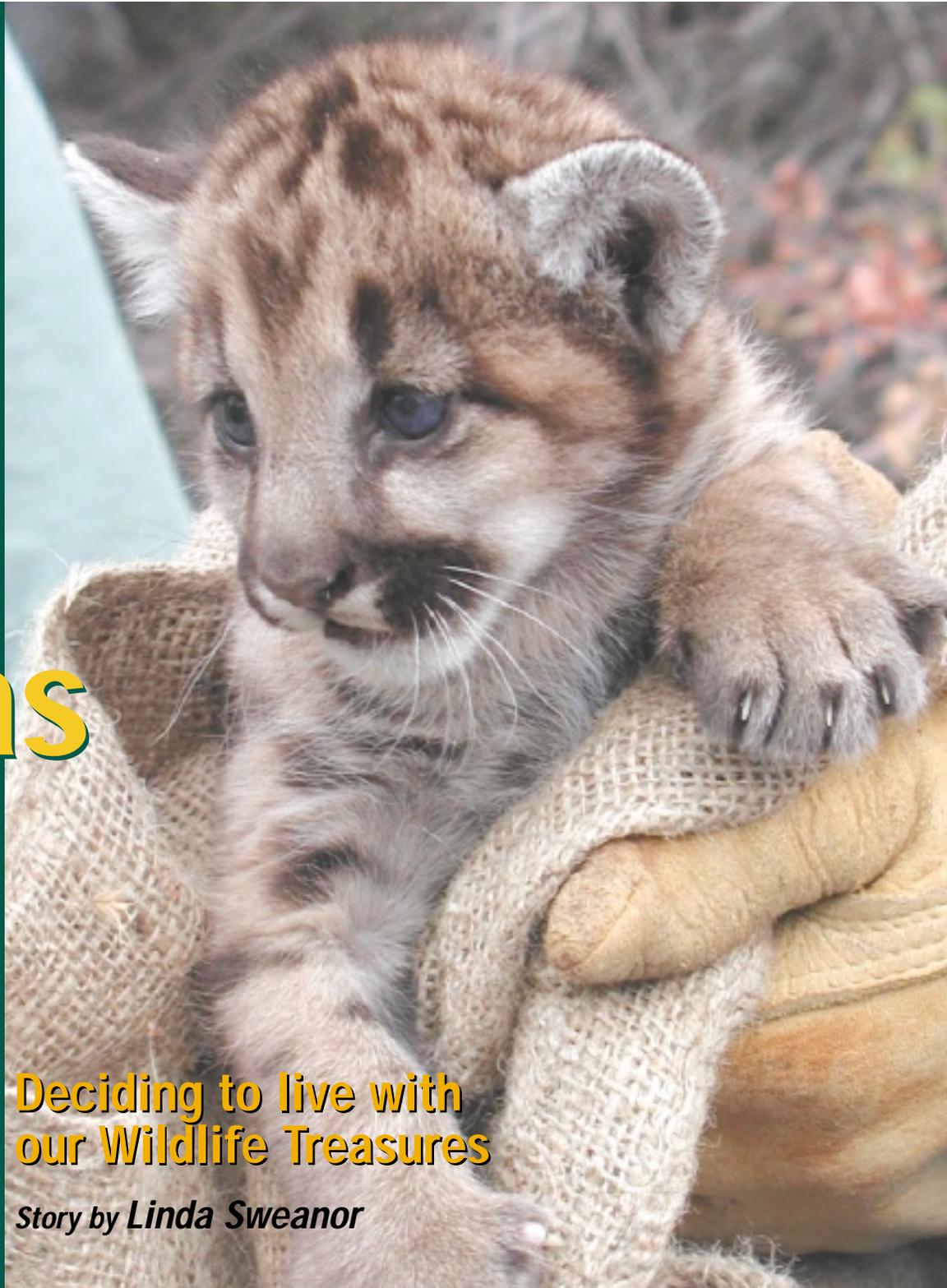


# *wild news* summer 2004

## Pumas Feel the Heat:

Deciding to live with  
our Wildlife Treasures

Story by *Linda Sweanor*





# Pumas Feel the Heat

by *Linda Sweanor, Wildlife Biologist*

*Puma M9 capture (with author, Linda Sweanor)*

## It proved to be a very bad day for Belle.

A team of scientists had captured the large female puma (also known as a mountain lion) in a cage trap in Santa Ysabel Creek in mid October. They had weighed and measured her, fitted her with a tracking collar, placed a red tag with the number 19 in her right ear, and finally released her. That hadn't gone so badly; she had actually gotten a little food out of the deal – in the form of a road-killed deer used as cage bait. Several days post-capture, however, Belle decided to hunt in another part of her home range. She crossed Highway 78 on the outskirts of Wynola and entered Orinoco Creek. She may have killed a deer there, in the oak and chaparral cover provided by the larger Hosking's Ranch. That same evening, a fire started in Cedar Creek, a few scant miles southwest of where she was bedded. The fire, well fed by the dry chaparral and whipped by Santa Ana winds, roared westward toward Ramona and San Diego. Later, as the winds changed, it turned back eastward – and found Orinoco Creek. Somehow Belle was able to hunker down and survive the initial flames. But her injuries were too severe, and after 2 weeks she succumbed. She died not far from the Inaja Memorial, where we honor the lives of 11 brave firefighters who lost their lives in a similar fire in 1956.

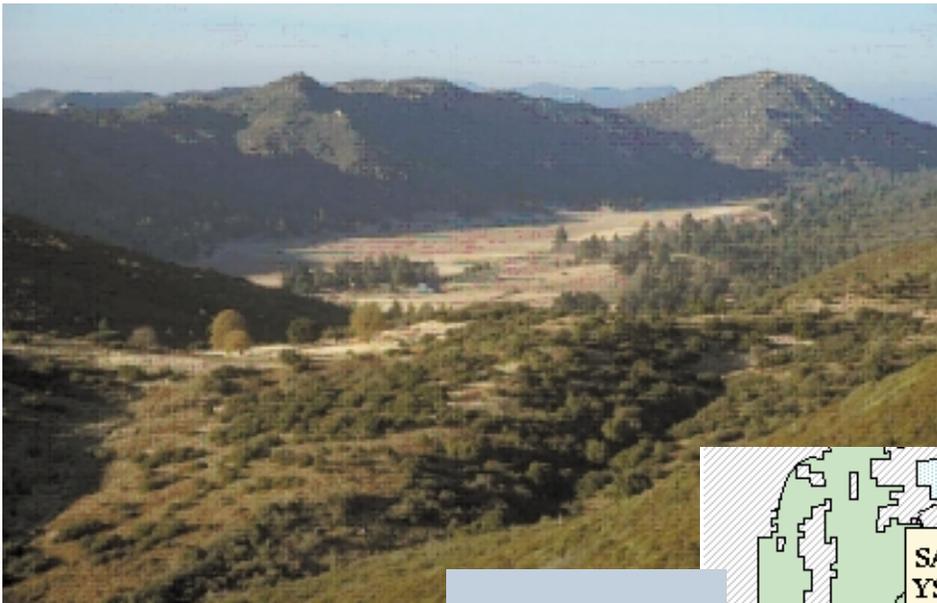
Belle was only one of many animals that lost their lives in the Cedar Fire. It was a very destructive fire – some people died, and many people lost their homes. Fire feasted on a swath of habitat larger than any previously recorded in California history. Years of fire suppression and “perfect” fire conditions probably led to such an unprecedented blaze. But for the wildlife and the native vegetation that took such a beating, not all is lost. Most of the vegetation that blankets the hills of southern California has evolved with fire. If the hills get some gentle rain and snow, shrubs will send up new sprouts from living roots, and seeds will germinate. These plants will provide a wealth of rich food for the recovering wildlife.

As is most everyone, I am saddened by the loss of wildlife. I feel fortunate to have partaken in a puma research study in east San Diego County over the past 3 years, and the loss of one of our study animals is painful. However, I know that the puma population as a whole can withstand such a natural catastrophe, and may even benefit over time from a boom in deer numbers that an invigorated, rich environment will support. But that's not the whole story. Many other things have come to affect the lives of pumas in the San Diego “backcountry.” Their results may not be as dramatic, swift or as easily noticeable as a hot-

burning fire, but they may, in the long run, be much more devastating. That is what I want to talk about here.

**Pumas in southern California** are dealing with problems on many fronts. One of the most challenging is loss of habitat. This loss is not short-term, as is produced by an event such as the Cedar Fire, but forever – in the form of human development such as housing and roads. The “back-country” of the 1960s has changed dramatically in 40 years.

I was initially hired as part of a team to study puma-human interactions in the vicinity of Cuyamaca Rancho State Park.

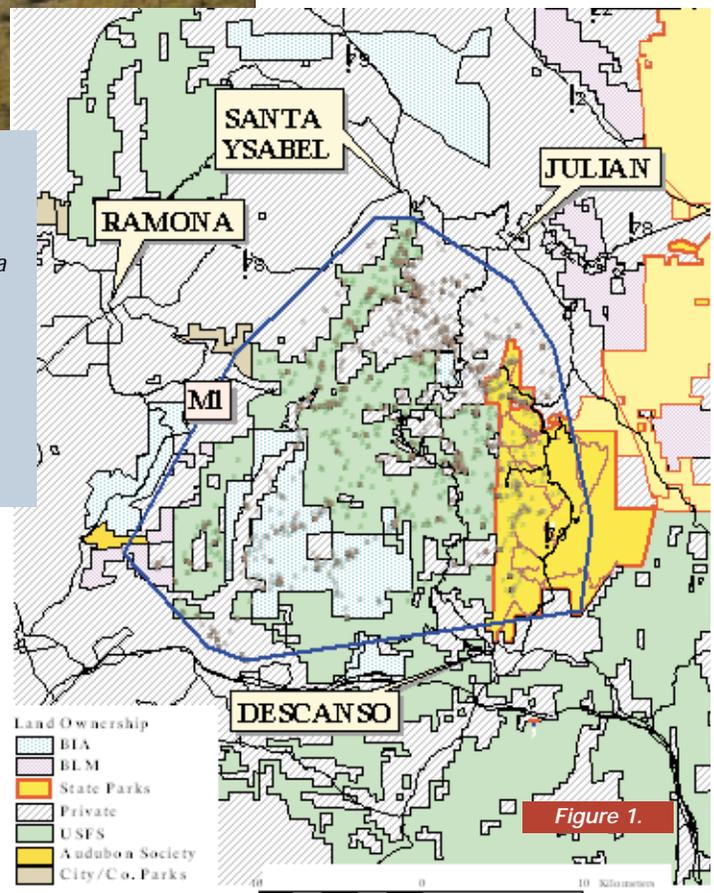


The park encompasses about 50 square miles of pine, oak and chaparral in the mountains east of San Diego, and it is surrounded by a mix of national forest, BLM, Indian, and private lands. Each year, more and more people come to the back-country to live and recreate. In the past year, visitation to the park topped 500,000 people. Many small communities also dot the landscape just outside Cuyamaca Rancho State Park – most notably Descanso, Guatay and Pine Valley to the south, and Cuyamaca, Harrison Park and Julian to the north. From a bird’s eye view, you can see the extent of this mountainous backbone, as it runs from the Laguna, Cuyamaca, and the Volcan Mountains north past Lake Henshaw toward Palomar Mountain. The view will reveal many pockets of human development along the way, from Mount Laguna to Santa Ysabel to Warner Springs. This backcountry not only supports recreationists, week-

*Map right During the 27 months that we tracked Puma M1, he used an area that exceeded 200 square miles (the dots are location points). About one third of his home range consisted of private land.*

enders, and year-round human residents, it is also home to pumas. Although the recent fire has caused a set-back in human growth, the human spirit is strong and many have vowed to rebuild. The lure of open spaces and a less hectic lifestyle will continue to draw more people from other places; consequently, the remaining private lands will become more developed in the years to come. In the past 30 years the human population in San Diego County has doubled to over 2.8 million people.

**This fragmentation affects all wild creatures** to some extent, but it is extremely problematic for a species that must traverse large areas to survive. By radio-collaring and following pumas in the Cuyamaca Rancho State Park area, we have found that an adult female’s home range may easily exceed the size of the park, whereas an adult male may traverse an area in excess of 200 square miles – this is over 4 times the park’s size. Some of the pumas we captured in or near Cuyamaca Rancho State Park have ventured as far north as Beauty Mountain (north of Warner Springs)



and as far south as Barrett Lake (about 8 miles south of Interstate 8). Consequently, private lands are an important part of a backcountry puma's home. For example, we were able to track the movements of puma Female #8 for a year after she was captured and collared in March 2002 (after that time her collar, equipped with a global positioning system, failed). During the period she was monitored, she crossed Highway 79 (a busy 2-lane highway which runs north to south through the center of the park) at least 31 times. About half of her home range was north of the park, and included the communities of Cuyamaca, Cuyamaca Woods, and Harrison Park. The total number of homes in that area exceeded 350, and corresponding lot sizes ranged anywhere from a quarter of an acre to over 40 acres. F8 chose one of these larger spaces, later acquired by State Parks, as the location of her first nursery. Puma M1, a large adult male, not only used the park and the same areas outside the park as F8, he went west past the Hoskings Ranch to Mt. Gower and the Ramona, San Diego Country Estates (which was heavily damaged by the Cedar Fire), south to El Capitan Reservoir and El Cajon Mountain, then west almost to the Barona Casino off Wildcat Canyon Road. (See previous page, Figure 1)

The use of these large expanses of habitat, much of which is inhabited or recreated on by humans, brings pumas and people into potential conflict. That was one of the reasons for the puma study. State Park personnel wanted to learn more about pumas and puma behavior because they were concerned about potential negative encounters between pumas and people. In 1994, a puma killed a lone woman hiker on Cuyamaca Peak, and in the years since, there have been a few threatening encounters, as well as numerous puma sightings by park visitors. Park personnel wanted to learn ways to minimize the potential for dangerous



*Puma F7 being weighed.*

encounters while still retaining an intact wild puma population. With more people using puma habitat, there are the potential for more encounters.

**Pumas are exceptional predators.** Although pumas don't have the stamina to run long distances in pursuit of prey, they do have all the necessary equipment for pulling down large animals such as deer, and even elk where available. Such animals may weigh up to 6 times the puma's weight. Adult pumas in San Diego County weigh between 80 and 150 lbs. Pumas must stalk their prey to get within pursuit distance. Their stealth, speed, muscular forearms, retractable claws, and powerful jaws help make them successful. Those same characteristics also make them a potential threat to humans, as well as domesticated animals. Given the cat's capabilities, it is almost amazing that puma attacks on people are so rare. In the past 100 years in North America, there have been about 17 documented human deaths attributed to pumas. In simple con-



*Puma F15 recapture Researchers Dr. Ken Logan, Jim Beier and Linda Sweanor.*

## San Diego Foundation Grant

We are pleased and honored to announce that the WRI was recently awarded a \$25,000 grant from The San Diego Foundation. This grant will help the WRI with our developmental needs as we grow and expand our research and conservation activities. Thank you to the San Diego Foundation for their generous award to us and to the great work they perform in our county to many other non-profit groups.

## WANTED!!

### CORPORATE & BUSINESS SPONSORS

We always have many individuals to thank for donating to our WISH LIST. Because of their generosity WRI has been able to secure quality office furniture, freezers, conference tables, vacuum cleaner and office equipment. Now we are asking your business or company to think about a large gift to WRI as a corporate donor. We are a federally recognized 501(c)(3) charitable organization and as such your business or corporate donation is tax deductible. We have unique hands-on opportunities for corporate sponsorships with employee interaction. For more information call: Dave Bittner, Executive Director at 760-789-3992.

### CURRENT WRI WISH LIST

- 4-Wheel Drive Vehicle
- Headquarters \$300,000
- Horse/Large Animal Trailer
- Lumber for Bridge: 4X4/4X6

## MEMBERSHIP APPLICATION

- Student Membership . . . . . \$25
- WRI Membership . . . . . \$50
- WRI Partnership . . . . . \$100
- Golden Eagle Researcher . . . . . \$500
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- Corporate Sponsorship . . . . . \$5,000
- Lifetime Membership . . . . . \$10,000
- RENEWAL

### ALREADY A MEMBER?

Please pass this form to friends and neighbors, or businesses who are interested in conservation. WRI is embarking on many new projects, we are looking for volunteers for a variety of work.

- I am interested in volunteering:
- Committee Work
- Fund Raising-Annual Event
- Grant Writing
- Work Projects (free exercise!)
- Contractor Leaders
- Research/Animal Care
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Name(s): \_\_\_\_\_

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Enclosed is my check for \$ \_\_\_\_\_

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Your donation is tax deductible.

Call 760-789-3992 for more information.

*Thanks for Your Support!*

# CONFERENCE ROOM NOW OPEN!!

We achieved another milestone in our progress of enhancing the WRI Headquarters: the completion of our new conference room. The old garage has been transformed into a beautiful, new 500 square foot room which functions as a meeting and conference room. The room was finished in time to be used in last winter's Hawkwatch program, serving as a meeting place for refreshments and information. A special thanks to Tom Trowbridge for his leadership in managing this project.



## CHILDREN'S HAWKWATCH

The new Conference Room also served as a classroom for students from Mt. Woodson Elementary's 5th grade classes during **The JULIE SAVARY MEMORIAL Children's Hawkwatch Program**. Leisje Meates, Fred Sproul, Regina Wilson, and Dave Bittner shared their knowledge and passion with these students for a successful education program for our future scientists.

*Top: Dave Bittner, WRI Executive Director, banding Red-Tailed young nesting on the Ramona Grasslands.*

*Above: Fred Sproul, Botanist and Naturalist, spotting wildlife with the students.*

*Right: Project Biologist, Leisje Meates, takes the Mt. Woodson class outside to view Burrowing Owls and to train on the use of binoculars.*



trast, dogs kill about 12 people each year in the U.S.

Given enough habitat for successful hunting, resting and cub-rearing, a puma population can flourish. Pumas can even be successful living in areas that include communities such as Harrison Park and Cuyamaca if there is still enough protective cover and wild game living there. However, as the habitat becomes more and more altered by humans (more houses, less game), such areas will become less and less hospitable to pumas. Even without further development, the risks to a puma are high. Some pumas are hit and killed by vehicles each year (20 in San Diego County in the past 10 years), and still others are killed for public safety reasons (14 in the county in the past 10 years). But the largest numbers are killed for depredating on domestic animals, including livestock, hobby animals, and pets (45 in the county in the past 10 years). In the past 3 years of puma research, our team has captured and tagged 15 pumas (6 adult males, 6 adult females, 3 cubs) in and around Cuyamaca Rancho State Park; of those, 1 (puma M2) was killed by a vehicle on Interstate 8, and 3 others (cub M3 and his unmarked mother, M9, M16) were killed for depredating on hobby animals.

**Pumas are opportunists.** Although they are intelligent animals, they cannot easily distinguish between appropriate and inappropriate prey. But they are good at spotting vulnerable prey. The domestic animals that our tagged pumas killed were pets or hobby animals, and included sheep, goats, alpacas, geese, cats, pot-bellied pigs, and chickens. None of these animals had been put in adequate housing during the night. And many were probably encountered while the puma was out hunting for its favored prey – deer. Not surprisingly, the animal's owner was upset when he found his animal dead, and sometimes he was frightened for his (and his family's) safety. Consequently, he either shot the offending puma himself (the case with M9), or requested that a state or federal agent kill the animal. If, instead, the owner had taken the time and care to husband his animals appropriately, it's unlikely either his pet or the puma would have died.



*One of puma F8's female cubs at four weeks.*

**There are things that residents in puma country can do to minimize the loss of domestic animals to pumas – and the likelihood a puma will be destroyed for such behavior.** Hobby animals attract pumas, and consequently increase the risk of dangerous encounters between people and pumas. Although ranchers with large operations don't have such luxuries, those of us who have hobby animals can minimize risks by practicing good husbandry. That means keeping animals in completely enclosed pens during the night (preferably dusk to dawn). Each pen must not only have walls and a closed door or gate, but also a secure roof. Pets (dogs and cats) should be kept indoors at night or in

their own enclosed pen. Feed your pets indoors or remove uneaten pet food so you won't attract wild animals. Wild animals may also try to find refuge under unenclosed decks; seal them off. Raccoons or skunks that frequent your property for food and shelter can attract bigger predators that want to feed on them! These actions can greatly reduce the chance a favored pet or hobby animal will become a puma's meal.

**We must realize that a puma like F8** can traverse an area that includes over 350 homes – and who knows how many pens with pet alpacas, goats or pigs! It only takes 1 person practicing bad husbandry to potentially forfeit the life of that puma. In the case of F8, she was lucky at least once.



*Alpaca pens where F8 was captured. Notice the pens have now been completely enclosed, demonstrating responsible animal husbandry.*

When an unmarked female puma killed a landowner's alpaca, the owner didn't want her killed, so agreed to let us collar and release her. She became known as F8. The landowner then followed our advice and began to put her alpacas in completely enclosed pens at night (prior to that, all that "protected" them was a four-foot fence). Although F8 walked through the landowner's property many times after that, no other alpacas were ever harmed. F8 has since raised a litter of 2 cubs; they were last seen in Cuyamaca Rancho State park with their mother when they were about 9 months old. Maybe these cubs will also be lucky and live to raise families of their own. This was not the case with Stone (puma M3) and his unmarked mother "Trixie." Trixie made the mistake of killing 2 sheep in a broken-down pen on the outskirts of Descanso. She was captured

and killed, leaving Stone an orphan. Stone waited 2 weeks for Trixie to return to him. Finally he got hungry, killed an unprotected goat in a small pasture, and sealed his own fate.

**I try to remain optimistic** that pumas and people can coexist in California's backcountry long into the future. Continuing education about pumas, good animal husbandry practices, community involvement, and further land protection (in the form of wildlife easements, zoning regulations, or in some cases acquisitions) will help ensure pumas are a continuing part of the natural system. But it will only happen if the people living and recreating there want it to be so.

## ABOUT THE AUTHOR

*The puma research is being conducted by the Wildlife Health Center at UC Davis under the direction of Dr. Walter Boyce. Funding was provided by California State Parks, California Department of Fish and Game, and private donations to the Wildlife Health Center at UC Davis. The author, Linda Sweanor, her husband Dr. Ken Logan, and Jim Bauer began the field research in 2001; through 2003 they had tagged 19 pumas. Sweanor and Logan are now working in Colorado while Bauer continues the puma project in the Julian/Cuyamaca area in California. Logan and Sweanor have over 35 years combined experience studying pumas. If you would like to learn more about puma biology and conservation issues, they published a book in 2001 on their 10-year puma study in New Mexico, entitled "Desert Puma: evolutionary ecology and conservation of an enduring carnivore."*



## **Commentary from the editor of Wild News:**

San Diego County has been blessed. It is the most biologically diverse county in the continental United States. But with this blessing is a heady responsibility: We also have more endangered and threatened plants and animals than any other county. We have a massive decision to make. Are we going to decide to protect habitat and habitat corridors for our wildlife?

Wildlife must have wild lands saved for them, but these lands must be connected to one another by wild corridors/land bridges for wildlife to survive. Without the habitat, without the connectivity of these habitats, any wild lands become mere islands and the wildlife within the "islands", criss-crossed by roads and more highways, succumb to "edge affect" pressures with a lack of critical mass for a viable mating population.

If we do choose to protect habitat, we also must also choose to give the plants and animals peace and not recreate on every square mile of backcountry with motorized toys. If you feel it is your right to tear up any public land, then you choose to live in an environment without wildlife. We can enjoy the wildlife the backcountry offers by using our public lands passively, by enjoying the quiet, the viewscapes, the smells of native flora. Our actions now will determine if future resident and our grandchildren will have wildlife and pumas in their "back country".

We ask that you learn and encourage your neighbors to become puma wise. With the recent fires, many reactionary opinions and speculations are being bantered about. I hear voices using our recent fires as an opportunity to blame environmental protections as the cause of all our problems. My hope is that calm heads will prevail and work with facts, not hysteria. Are we willing to share our county, our land, with the wild animals or do we really just want a "safe from wildlife" suburb: no brush, no native trees, no wildlife, just sterile and void and paved over?

It is up to us to be good stewards of the land, and we have many neighbors, some of them are four-legged, and their destiny is in our hands; their fate is on our collective conscience.