



## When Disaster Strikes UC Davis Veterinary Emergency Response Team is there to help

**Editor's Note:** This special issue of The Horse Report is about the veterinary rescue workers who gave their hearts, souls and time to help the animals involved in this disaster. The victims of The Fires of '06 were sheep, though they could have been horses. For their owners, the fires might as well have been Katrina. We hope this story will serve to motivate individuals and communities into preparing for the care and rescue of their animals in a similar catastrophe.

Friday, September 22, 2006  
Woodland, California

Hi Allen,  
Call me now. Activate people on our list to be ON CALL. May need triage and evacuation for horses. It sounds big at this time, 6 am.  
John

Dr. John Madigan of the UC Davis School of Veterinary Medicine resorted to e-mailing this message after he was unable to reach Allen Page by phone. Allen is president of the UC Davis Veterinary Emergency Response Team, a unit trained to respond to disaster situations involving animals in cooperation with the county Office of Emergency Services.

Well before dawn that day, winds in the Sacramento Valley became increasingly violent, reaching nearly 70 mph in some areas of Yolo County. Combined with dry weather conditions and low humidity levels, weather forecasters had reason to be concerned as they issued high wind advisories and high fire-danger warnings. This



*At times our own light goes out and is rekindled by a spark from another person.  
—Albert Schweitzer*

time, the warnings were realized when rangeland in Yolo County northwest of Sacramento caught fire. The fire is believed to have started from a downed power line, although this is still being investigated.

Fire crews were called from throughout the county, and strike teams were dispatched from neighboring counties as

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## DIRECTOR'S MESSAGE

## Regardless of Species



Dr. Gregory L. Ferraro

While it may seem unusual for our *Horse Report* to devote an issue to the rescue and treatment of sheep, it is entirely reflective of our faculty's expertise in equine disaster relief services.

The Center for Equine Health's Animal Rescue and Disaster Relief Endowment and the School of Veterinary Medicine's Veterinary Emergency Rescue Team were originally created to address the difficult problem of rescuing horses that were trapped or injured in natural disasters or accidents. What became obvious rather quickly, however, is that in large-scale rescue operations, pain and suffering is not species-specific and compassionate care for victims knows no boundaries. In responding to emergency situations involving horses, rescue workers have found other animal victims in need of humane care.

In the recent Zamora fire, Dr. John Madigan and his rescue volunteers initially went out to rescue horses known to be in the area of the fire but quickly realized that the species needing rescue and care were actually hundreds of burned sheep. Faced with the

suffering of scores of these animals, Dr. Madigan quickly organized a monumental medical triage effort. Horse doctors became sheep doctors under the guidance of UC Davis veterinarians experienced in sheep medicine.

Because of Dr. Madigan's previous experience in disaster management, Yolo County has an animal disaster plan in place and the appropriate procedures and policies were easily followed. Agencies such as the local Office of Emergency Services and Yolo County's Office of Animal Services ensured that necessary measures were taken to limit the impact of the fire's aftermath. Volunteers were recruited to help with the removal of dead sheep and to ensure an adequate supply of food and water to those who survived. The entire process resulted in a unified community effort to overcome a terrible event.

Three months later, burned sheep continue in their recovery and newborn orphaned lambs delivered by cesarean section are being cared for by volunteers. The feeling of helplessness experienced by the sheep owners in the immediate aftermath of the fire was assuaged by the compassion and medical assistance extended to them. The community of Zamora and the citizens

of Yolo County have benefited from the knowledge that there are means available for responding to crises, and several state and local agencies have shown that it is possible for government to respond quickly and efficiently in the face of disaster.

The most important result, however, is the saving of animal victims and the relief of their suffering without regard to species or economic value. Secondly, the experience gained by the students and faculty of UC Davis who participated in the endeavor is important. The knowledge of what, when and how to respond under pressures of disaster relief and the resulting confidence in their ability to perform will prove invaluable to these current and future veterinarians in their careers.

Finally, all who were involved or witnessed these events have been positively affected by the compassion given to these victims of a terrible event — regardless of their species.



Some of the older orphaned lambs being cared for by a neighbor.

## When Disaster Strikes — Continued from page 1

well. The rapid movement of the flames fanned by the high winds made it virtually impossible to bring the blazes under control. The fire ultimately swept through some 13,000 acres of rangeland with unprecedented speed, burning everything in its path including a large number of sheep that were unable to escape. The Woodland Stallion Station nearby was reportedly damaged, but the horses were evacuated without harm.

Contacts were made to the UC Davis Veterinary Medical Teaching Hospital, the Center for Equine Health, and private horse owners to be available for transport of additional horses if needed. Initially, veterinary rescue workers were unaware of the involvement of other animals besides horses. Once the county Animal Control Office communicated to Dr. Madigan that several large flocks of sheep on isolated rangeland had been exposed to the fire, he and members of the UC Davis Veterinary Emergency Response Team (VERT) mobilized to evaluate and treat them. They met the ranchers who owned the flocks and learned that there were more than 1,500 sheep. Many burned sheep could be seen from the road, but the true magnitude and extent of their injuries could not be determined without examining them. A plan was quickly developed to carefully evaluate affected animals, identify those needing treatment, and also recognize those that were suffering and had no hope of recovery.

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An unidentified woman watches the fire from the Stallion Station off County Road 20. All of the ranch's horses were evacuated without incident or harm. Photo taken by Deo Ferrer, *The Daily Democrat*, Woodland, CA.



Firefighters battle the wildfire near the Stallion Station. Photo taken by Matt Henderson, *The Daily Democrat*.



Several of the hundreds of sheep that were caught in the fire. Most did not survive. Photo taken by Matt Henderson, *The Daily Democrat*.

## When Disaster Strikes

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Many individuals from the Veterinary Medical Teaching Hospital responded to the crisis, and the response from outside volunteers and members of VERT was tremendous. Over the course of several days, more than 50 different faculty, residents, staff and students participated in the evaluation and treatment of sheep suffering from second- and third-degree burns, traveling out on the range to find animals that were unable to move very far because of their injuries. Many animals were treated out in the field.

At an early stage of this effort, a team of sheep medicine experts that included Drs. Joannie Rowe, John Angelos, Mike Lane and Bob Bonifaciou was assembled to establish guidelines for approaching the types of injuries in the various organ systems of affected sheep. The skin, eyes, noses, feet and respiratory tracts were the areas most in need of attention. Each animal identified for treatment received medication for pain relief and most were also treated with antibiotics and topical burn ointments.

The veterinary crew recognized that many sheep had severe burns, including a large number that had their hooves completely burned off. They encountered examples of animals that were down, unable to walk, and clearly suffering inhumanely from irreversible injuries. In these instances, the decision was made to end their suffering using the most appropriate method of humane euthanasia. Guidelines published by the American Veterinary Medical Association for humane euthanasia of sheep in the field were followed that took into account humane, ethical, environmental, and other considerations. Administration of an overdose of pentobarbital, the method of euthanasia used most often for individual animals in the hospital setting, is not feasible for use in the field because of the real risk that environmental contamination will result in significant loss of birds such as eagles, hawks, crows





and vultures that quickly descend on dead animals before they can be removed. In accordance with AVMA guidelines, the method implemented for swift and humane field euthanasia was small arms gunshot, carefully placed to instantaneously render unconsciousness and death.

Since the fire, teams of volunteers from the VMTH have traveled to the sheep ranch in Zamora every week—at first every day, and then tapering off to several days each week—to provide continued veterinary care and treatment to the several hundred sheep that were saved.



Of the sheep that initially survived the fire, more continued to die over time from their burn injuries. Many pregnant ewes died in the fire but a number of their lambs were able to be delivered by Caesarean. Some pregnant ewes survived and gave birth but were unable to care for their lambs. All of these orphaned lambs are being raised by volunteers, most notably by long-time neighbors of the sheep ranchers, Janet and Dewey Berry. According to Mrs. Berry, "People have no idea the devastation this is. I thought if a fire ever went through, what you'd have is a bunch of dead bodies. But it's the walking dead that are the hardest to cope with. It's watching all those animals that you can tell are not going to survive, but they're still alive."



As for the sheep rancher who lost 1,000 of his 1,200 sheep, without the UC Davis Veterinary Emergency Response Team, "I don't know how I could have handled it. There was just not much that one vet alone could do but take care of one or two animals." The family has owned their ranch for four generations and say they will continue in the sheep business. They will rebuild and wait for their pasture to grow back. They will take it one step at a time. ✨

## California's Animals to be Included in State Disaster Plans

On September 29, 2006, Governor Schwarzenegger signed the Disaster Planning for Animals bill (AB 450), which requires that California's disaster planners consider the needs of household pets, service animals (for example, guide dogs) and livestock in an emergency. The Humane Society of the United States (HSUS) applauds this needed legislation as a way of protecting both animals and the families who care for them.

"Pets are a part of our families, and can't be left behind in an emergency," said Eric Sakach, director of the HSUS' West Coast regional office. "With his signature, Governor Schwarzenegger ensures that emergency plans

In the aftermath of Hurricane Katrina, Americans were struck by the images of pets lost and abandoned because they were not included in disaster plans. Many people refused to evacuate their homes without their pets. HSUS disaster experts say that evacuations would run more

*While this is good news for animals and those who care for them, it will be up to individual counties and their Offices of Emergency Services to develop disaster plans that depend largely on community volunteers.*

smoothly if pets are included in pre-disaster planning. A recent Zogby International poll found that 61 percent of pet owners say they would refuse to evacuate if they could not take their pets with them.

In the months since the hurricane, legislation has passed in nine states, and the federal Pets Evacuation and Transportation Standards (PETS) Act, led by U.S. Representative Tom Lantos, has passed in Congress to ensure that the failure to consider pets and service animals during Hurricane Katrina is not repeated.

While this is good news for animals and those who care for them, it will be up to individual counties and their Offices of Emergency Services to develop disaster plans that depend largely on community volunteers.

According to Kathleen Finnigan, principal consultant in the office of Assemblyman Yee, the plan is about counties organizing volunteers, equipment, shelter and food. The actual role of the individual counties will be to provide support and coordination.



will keep people and pets together in the time of crisis. We thank Governor Schwarzenegger and Assembly Member Leland Yee for their support of this important legislation, which will not only help animal rescue efforts but human relief efforts as well."

## UC Davis Veterinary Emergency Response Team

**D**r. John Madigan, Director of the UC Davis Veterinary Emergency Response Team, is a specialist in equine neonatology who has ventured beyond his field into the arena of disaster medicine and large animal rescue work. As a witness to the Northern California Yuba County floods in 1997, he found that many people wanted to rescue the stranded animals but were prevented by government officials from entering the disaster areas. According to Dr. Madigan, "The experience of being denied access to a flood zone, seeing the plight of the animals left behind, and treating and caring for the animal victims too long after the fact was a wake-up call to me as a veterinarian and a horse owner." The resulting anger and frustration he experienced were channeled into an effort that has led to significant improvement in animal welfare today.

One of the most important developments from this effort has been the creation of the UC Davis Veterinary Emergency Response Team, also known as VERT. Comprised of faculty veterinarians, staff and students from the School of Veterinary Medicine, these volunteers are trained

in animal rescue techniques and also receive training in the Standardized Emergency Management System, a statewide system that allows the integration of rescue services between various groups. VERT works in conjunction with the Office of Emergency Services, the American Red Cross, the California Veterinary



Medical Association, and other local disaster relief organizations.

VERT is on call 24 hours a day. While activation of the team is at the discretion of the Yolo County Office of Emergency Services, the team is available for use by other counties through the Yolo County Office of Emergency Services. VERT specializes primarily in large-animal rescue but is prepared to rescue smaller animals should the need arise. An off-shoot of

VERT specializes in non-disaster large-animal rescues, often involving airlifts. Some previous rescues include a horse trapped in a ditch, a group of mules stranded in the Sierras, and an injured mule unable to move near Bishop.

At present, VERT has such limited resources that it is available primarily to the the Yolo County Office of Emergency Services. However, it will consider all emergencies on an individual basis. To request assistance from the Large Animal Rescue Team, please call the UC Davis VMTH Large Animal Clinic at (530)752-0290. If calling between 5:00 pm and 8:00 am during the week or anytime on the weekend, follow the automated instructions for reaching the after-hours emergency phone number.

VERT is a volunteer organization made up of faculty, students and staff from the School of Veterinary Medicine. While it receives yearly support from the Center for Equine Health, it also needs the additional support of individuals and communities to defray costs associated with medical supplies and equipment. Contributions to VERT can be made using the form and envelope provided here.

**YES!** I would like to help support the UC Davis **Veterinary Emergency Response Team**. Please make checks payable to UC Regents and return with this portion in attached envelope to the Center for Equine Health. **Thank you for your support!**

Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip Code \_\_\_\_\_

**WALLY HERGER**

2nd DISTRICT, CALIFORNIA

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October 30, 2006

John Madigan, DVM  
Chief of Equine Medicine  
UC Davis  
One Shields Avenue  
Davis, CA 95616-8747

Dear Dr. Madigan:

It was good meeting you and your senior staff and veterinary students during my recent visit to Zamora.

Words are sometimes difficult to find to express how much we appreciate you and UC Davis Veterinary Hospital for being such wonderful neighbors to the Slavens. Out of tragic circumstances, there is always a bright spot that rises from the community and that is *neighbor helping neighbor*. You, sir, are to be commended for your caring heart and gracious assistance during some very difficult times. Thank you for your service to the community.

I also want to commend your staff for their willingness and commitment to help the Slavens and their neighbors cope with this tragedy. Under your leadership and careful guidance, the students and staff provided the heartfelt assistance, kindness and emotional support during a most difficult time. This was not a textbook operation. This effort truly came from the heart.

Thank you, Dr. Madigan, for being here during such an important time in Yolo County history. We are indebted to you.

Sincerely,

  
WALLY HERGER  
Member of Congress

## Rescue Mission: Perspective of the Veterinary Student

*Dr. Madigan has described how the assistance provided to people's animals in times of disaster can help the humans overcome emotional devastation. In the aftermath of Hurricane Floyd in 1999 he said, "Aside from fulfilling the responsibility for animal stewardship, this particular rescue operation revealed an unintended consequence of the volunteer effort: that of creating an overwhelming spirit of goodwill among a community of people struggling to cope with disaster. The role that animals play in the lives of humans is very important, and what we found is that when we're rescuing a horse, an entire community becomes aware that someone has come in to help them, and that they care enough about them and their animals, which are a big part of their lives, to get them through their disaster. We found that the uplifting of people's spirit and the outpouring of emotion and resulting appreciation for these efforts was very important, not only to us but to the ability of the community to overcome their own suffering."*

Several veterinary students wrote or talked about their experience in this rescue mission described in this Horse Report. Their thoughts reveal that they, too, reap an unintended reward for their humanitarian efforts.

Mario Dinucci is a fourth-year veterinary student and was involved with this rescue operation from the start. He wrote, "I feel fortunate to have been involved over the past couple of months with VERT and the response to the 2006 Zamora fires. While it was difficult to see such a large number of animals suffering, it was very rewarding to be able to do something for them and their owners. In some cases this meant medical treatment or humane euthanasia, other times it was performing C-sections to save unborn lambs, and occasionally it was just giving an upset rancher some reassurance that we would 'be back tomorrow.'

"Regardless of how we helped, it was fulfilling to be able to do something. There are many good things that will come of this experience, including new medical approaches to the management of burn victims and neonates as well as a better understanding about the prognosis of these types of injuries. In addition to the valuable experience this has been for veterinarians, students

*I hope this experience can be used as a small example of why we need to make changes, to better prepare our country for future disasters and public health emergencies.*

— Mario Dinucci, Veterinary Student



*Dr. John Madigan (far left) with some of the VERT team.*

and staff, we have more importantly made local, state and federal governments aware of the inadequate preparedness for disasters involving the animal community. I hope this experience can be used as a small example of why we need to make changes, to better prepare our country for future disasters and public health emergencies."

Allen Page, a third-year veterinary student, is president of the Veterinary Emergency Response Team. He also has been active in various outside groups such as Noah's Wish, a nonprofit organization dedicated to the idea that animals need

and deserve an organized, consistent, and professionally managed national disaster relief program. As a veterinary student, he is helping develop well thought-out, field-tested policies and procedures that can be practiced in all disasters.

For Allen and for the others, this rescue mission has been gruesome and at times depressing. On the other hand, it's been a great educational experience and not something one can get from the classroom. "It's unfortunate that this experience came from a disaster, but all of us who have responded consider ourselves lucky to have been able to do something so positive. It will make us better veterinarians."

# Disaster Preparedness for Horses

**D**isasters can happen anytime and anywhere and can take many different forms, from barn fires to earthquakes, from a propane line explosion to flooding from a violent storm. Any of these may necessitate evacuation. If you have horses or other large animals, it is important to have a plan to move your animals to a safe area. A plan is even more critical if you have a number of them.

During an emergency, the time you have to evacuate your horses will be limited. If you are unprepared or wait until the last minute to evacuate, you could be told by emergency management officials that you must leave your horses behind. Once you leave your property, you have no way of knowing how long you will be kept out of the area. If left behind, your horses could be unattended for days without care, food or water. To help avoid this situation, the following information and suggestions are offered by the Humane Society of the United States for planning for emergencies. With an effective emergency plan, you may have enough time to move your animals to safety.

## Evacuation Tips

- Make arrangements in advance to have your horses trailered in case of an emergency.
- Keep halters ready for your horses. Each halter should include (1) the horse's name, (2) your name, (3) your telephone number, and (4) another emergency phone number where someone can be reached.
- Prepare a basic first aid kit that is portable and easily accessible.
- Have a supply of water, hay, feed, and medications for several days for each horse you are evacuating.
- Make sure your horses are comfortable being loaded onto a trailer. If they are not accustomed to being loaded onto a trailer, practice the procedure so they become used to it.
- Know where you can take your horses in an emergency evacuation. Make arrangements with another horse owner to stable your horses if needed.

Contact your local animal care and control agency, agricultural extension agent, or local emergency management authorities for information about shelters in your area.

## Barn Fires: The Leading Disaster for Horse Owners

Preventing barn fires and being prepared in the event of a fire can mean the difference between life and death for your horses. Some ways to prevent a barn fire include:

- Prohibit smoking in or around the barn.
- Avoid parking tractors and vehicles in or near the barn.
- Store other machinery and flammable materials outside the barn.

- Inspect electrical systems regularly and immediately correct any problems. Rodents can chew on electrical wiring and cause damage that quickly becomes a fire hazard.



- Keep appliances to a minimum in the barn. Use stall fans, space heaters and radios only when someone is in the barn.
- Be sure hay is dry before storing it. Hay that is too moist may spontaneously combust. Store hay outside the barn in a dry, covered area when possible.
- Install smoke alarms and heat detectors throughout the barn. New heat sensors can detect rapidly changing temperatures in your barn.

## The Juliette Weston Suhr Fellowship Fund

We are pleased to announce the establishment of the Juliette Weston Suhr Fellowship Fund in honor of Mrs. Juliette Suhr, an avid horsewoman who has been active in endurance riding for many years.

This fund will provide annual fellowships for postgraduate veterinary students who are interested in conducting research in the areas of exercise-related cardiopulmonary and metabolic disorders. Such disorders commonly affect and limit the

performance of horses engaged in endurance racing and other long-distance competitive events, areas in which Mrs. Suhr has had a long-term interest.

Mrs. Suhr rode her first pony at the age of eight and is said to have ridden bareback endlessly through her parents' rows of pear trees. After marriage and the arrival of children, she



Juliette Weston Suhr

### *Good things should be shared.*

— Juliette Weston Suhr

had little contact with horses though she resumed after her children were older. While her children were in school, she began riding a friend's horse and found that none of the rides were long enough for her. Thus began her passion for the sport of endurance riding. In 1972, she helped establish the American Endurance Ride Conference and subsequently became the first person to win 20 Tevis Cup Buckles. She has ridden almost 30,000 miles of endurance and is still competing today.

But perhaps what best describes Mrs. Suhr are the words of her daughter Barbara:

*What is hard to express on a list of milestones is the impact my mother has had on her fellow riders. She welcomes and encourages newcomers to the sport with eagerness. She is also inspirational to aging riders, sharing with them the coping mechanisms she has used to deal with the discomfort and infirmities of old age and not letting them prevent one with heart from continuing to compete. As she raised her children to believe, 'Good things should be shared.'*



Photo by Mike Tomlinson.

The Twenty-First Annual  
**Charles Humphreus Memorial Lecture**

**Saturday, January 20, 2007**  
**9:00 am - 12:00 noon**

UC Davis School of Veterinary Medicine  
170 Schalm – Health Sciences Complex

**HOOF CARE IN FOALS:  
SHAPING THE CONFORMATION OF THE FUTURE ATHLETE**

Presented by Dr. Hans H. Castelijns, certified farrier and veterinarian, Cortona, Italy. No charge for admission.

Following the lecture, there will be a hands-on forging clinic with Mark Milster, CJF. There will be a charge for the clinic. For details, visit our Web site (Upcoming Events) or telephone Tamara McClanahan-Pedersen, UC Davis Office of Public Programs, (866)426-5693.

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