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For subscription inquiries or other information, please contact AWI at: P.O. Box 3650, Washington, DC 20027, phone: (703) 836-4300, facsimile: (703) 836-0400, email: awi@awionline.org, or visit AWI's website at: www.awionline.org.

ABOUT THE COVER

Like a real life version of Disney's Bambi and Thumper, this deer and rabbit pair was formed while the orphaned fawn—given the name Finchen—was being raised by his rescuers in a small town in Germany. The wild rabbit began grazing in the garden at the edge of the village where Finchen resided, and the two quickly became friends. Instead of burrowing when winter came, the rabbit even built a nest near the deer, and the duo stayed close together to keep each other warm and safe. Eventually, Finchen grew into an adult and was taken to a park to be released into the wild, but the townspeople who cared for the animals will never forget the sight of their special friendship. To learn more about interspecies bonding, see story, pages 4-7.

photo by Tanja Askani

Trinkets over Tuskers

At its recent meeting in Geneva, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) unfortunately voted to designate China as an ivory trading partner and gave final approval for the sale of nearly 240,000 pounds of ivory (obtained from an estimated 11,000 dead elephants) from South Africa, Botswana, Namibia, and Zimbabwe.



David Shepherd Wildlife Trust

An orphaned elephant calf mourns his dead mother.

China joins Japan, which was designated as a trading partner in 2006, as the only two countries allowed to purchase and legally import stockpiled ivory from the four southern African countries for the manufacture of sculptures, chopsticks, and other trinkets. AWI and other conservationists condemn the decision. Allowing legal trade will facilitate the laundering of illegal ivory and that flooding China with ivory trinkets will only increase the demand for these products—leading to further decimation of the world's remaining elephant populations.

In 1989, CITES banned the international trade in all ivory to try to stem the loss of Africa's elephants, whose populations had plummeted from 1.3 million to 600,000 by poachers attempting to satiate the increasing demand for ivory. In 1997, the aforementioned African countries received permission from CITES to conduct a one-off sale of their ivory stockpiles. This sale, according to many experts, led to a resurgence of elephant poaching, with over 200,000 elephants slaughtered in the past decade.

China is the principal destination for illegal ivory, fueled by the expanding affluence of its middle class. In recent years, Chinese authorities have seized large amounts of illegal ivory, but such confiscations are only a fraction of what is shipped to the country. When voting to give China its much coveted trading designation, CITES sadly ignored the country's reputation as a source for illegal ivory, an alleged ivory for arms deal with Zimbabwe exposed only months ago, and its recent revelation that it lost track of 121 tons of ivory that was likely sold illegally.

Though several countries expressed their opposition to the proposal, the United States was silent during the debate. Ultimately, the CITES Standing Committee approved China's designation. 🐾



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Top Left: While touted as a promising alternative to non-renewable energy sources, biofuels, such as ethanol made from corn, may pose a threat to animals and the environment. (photo: Laurie Smith); Top Right: Tasmanian devil populations have dwindled dramatically in recent months due to a mysterious form of contagious cancer. (photo: Tasmanian Devil Conservation Park); Bottom Right: Through the Marin County non-lethal cost-share program, ranchers have increased their use of livestock guard animals, such as llamas, who are known to protect sheep by warding off predators. (photo: Camilla H. Fox).



Beyond THE Food Web



CNimg/ing/Photoshot

A macaque born on China's Neilingding Island strayed from his mother and was taken in by an animal protection center, where he became best friends with a pigeon also living there.

AS CHILDREN, we were taught about the concept of the food web, which provides a map of “who eats who” in the animal kingdom. And we were taught about symbiotic relationships between different species, in which one or both members of the pair benefit from the alliance. But increasingly, we are presented with accounts of interspecific animal behaviors and relationships that do not fit neatly into these contexts—stories clearly demonstrating that the roles of animals in their environment are not as rigid as once thought. These examples prove that animals are not merely simple, instinctive beings, elucidating the softer, more vulnerable and malleable side to their nature. They particularly serve to remind us of the complex emotions of animals, as well as the fact that they share many basic needs with the human animal.

SOCIAL ANIMALS

Interspecies bonds typically involve social animals, so it is not surprising that dogs are one of the commonly documented species to interact with other types of animals. “Dogs have been genetically modified by [human beings] to be extremely sociable and extremely accepting,” says Dr. Stanley Coren, an expert in dog psychology.

Dogs have been known to bond with cats, ferrets, calves, fawns, piglets, goats, and even lions. Recently at the San Diego Wild Animal Park, a mastiff puppy was successfully introduced as a playmate to a lion cub whose twin had died. Zookeeper Suzanne Merner explains, “It’s very unusual for a herd or social animal like a lion to be a solo animal and to be mentally happy. They come from a group dynamic, and they crave that type of socialization.”

Better known by most people is the dog-human bond. Truly deserving of their title as “man’s best friend,” dogs have been known to risk their own lives to save those of their companions. In 2007, a pit bull terrier named Chief jumped in between a cobra and his 87-year-old companion and her granddaughter, saving them from the snake’s strike. Sadly, as a result of his heroic action, Chief received a fatal bite on the ear. Similarly, a doberman named Khan grabbed his 17-month-old toddler companion by the back of the neck and threw her over 3 feet to safety—out of the reach of a king brown snake who had ventured into the family’s

yard. Like Chief, Khan was also bitten, but fortunately, he recovered fully from the bite.

Dolphins are also extremely social animals who have been documented displaying extraordinarily selfless behaviors. Earlier this year, a mother pygmy whale and her calf stranded off the coast of New Zealand. Despite rescue efforts, these disoriented animals stranded an additional four times. Were it not for a highly social wild bottlenose dolphin named Moko, rescuers would most likely have euthanized the whales. To everyone’s surprise, Moko led the whales 200 yards out to the open sea, where they swam off.

There have also been many reports of dolphins coming to the aid of humans in need. Pods of dolphins have rescued humans from shark attacks by forming protective rings around them, enabling them to escape to shore. These amazing examples offer further proof that dolphins are highly intelligent and compassionate beings.

YOUNG ANIMALS

Instances of cross-species bonds involving young animals are also common. These occurrences can be attributed to maternal instinct and young animals’ readiness to bond with others. “Part of the reason for this is that very young mammals have pheromones that give them a characteristic ‘baby smell,’” says Dr. Coren. The relationship between Suzie, a British bulldog, and her adopted squirrels is one example. Suzie became the adoptive mother of three orphaned squirrels and eventually even nursed them.

Game wardens at Samburu National Park in Kenya reported a lioness who adopted six baby oryx in the span of a year. The lioness has been said to be protective of the same calves who would normally represent a meal to a lion. Wildlife conservationist Daphne Sheldrick noted that cases such as these are rare, but they do exist. “It does happen, but



John Pennock/World Illustrated/Photoshot

In the Philippines, a monkey delouses a cat at a beach resort in Palawan. Grooming is a sign of bonding between animals.

it’s quite unusual,” she says. “Lions, like all the other species, including human beings, have this kind of feeling for babies.”

Filmmakers following a young female leopard named Legadema in Botswana documented an amazing encounter between the leopard and a day-old baboon. Baboons are common prey for leopards, but Legadema started caring for the infant after killing his mother. Remarkably, the leopard did not kill the youngster as well. Instead, she carried the baby into the treetops, continually retrieving the primate even when he fell out of the tree. Unfortunately, the baboon died, not able to survive without his natural mother. Although tragic, this incident highlights how inexperience can play a role in interspecies interactions.

In Massachusetts, a heartwarming bond formed between a kitten and a crow. Ann and Wally Collito observed and videotaped the pair over an 8-month period. The couple first encountered the 3- or 4-month-old abandoned kitten, who they eventually named Cassie, when he was tossed over their fence and landed in their yard. Soon after, they noticed a crow, later named Moses, following the kitten—feeding him worms, leading him to water, protecting him from traffic, and playing with him frequently. The crow was acting as Cassie’s caretaker.

Other intriguing relationships include a pair of lovebirds who began raising a rat who entered their cage, a duck who bonded with a chicken and helped raise her chicks, and a mother cat who nursed a rottweiler puppy with the rest of her kittens after the puppy was rejected by his mother.

Charlie is a wild-born coyote whose parents were shot. “Adopted” by a local woman and her cat Eli, Charlie enjoys playing with both his human and feline companions.



Shirley Stockton/dailycoyote.blogspot.com



Manfred Dornberger/HHPA/PhotoStar

Living together on the same farm, a cat and a donkey have formed an unusual friendship. The donkey lives alone in the pasture, and the cat often pays visits to keep him company.

to stay until 2004, when they removed the cat and moved Maeuschen to a cage while they renovated her enclosure. Muschi, clearly distraught, roamed around the zoo, meowing and looking for her friend. Once she found Maeuschen, she sat in front of her cage for months.

Realizing that the pair was inseparable, the zoo attendants decided to let Muschi in the cage with Maeuschen. A zoo staff member says, "They greeted each other and had a cuddle, and now they're happy. They sunbathed together and shared meals of raw meat, dead mice, fruit and bread." As an omnivore, Maeuschen should have recognized Muschi as prey; however, her loneliness in captivity clearly caused her to see Muschi as a companion and not as a meal.

CAPTIVE SITUATIONS

Artificial living situations may also clarify why certain animals form cross-species attachments. Captive situations may create interesting, albeit non-voluntary, animal pairings. In one instance, a rat snake, Aochan, formed a bond with a hamster, Gohan, who had been placed in his enclosure as a meal. Before being given the hamster, Aochan had only been fed frozen mice and therefore may not have recognized Gohan as a food item.

No matter what these animals were feeling, they have certainly become friends despite the circumstances, even though they may have adjusted to the situation merely because they have no means of escape. "I've never seen anything like it," says a zookeeper at the Tokyo facility where these animals are housed. "Gohan sometimes even climbs onto Aochan to take a nap on his back."

In 2000, a special connection formed at the Berlin Zoo. That year, zoo attendants noticed a black domestic cat had wandered into the enclosure with a female Asiatic black bear named Maeuschen. The origins of the cat, who they later named Muschi, remain unknown. The attendants, thinking the company would be good for the bear, allowed Muschi

FASCINATING FRIENDSHIPS

A wildlife photographer captured images of wild polar bears interacting with tethered Eskimo sled dogs in Canada. The animals are seen tumbling around in the snow on their backs and obviously at ease. The bears reportedly returned day after day to interact with the dogs. According to Stuart Brown, the founder of the National Institute of Play, the images show the bears and dogs engaging in a form of play behavior and others have witnessed the same between wolves and grizzlies as well.

Another unexplainable encounter can be seen in the touching and heart wrenching National Geographic clip that shows an impala attempting to cross the river and being attacked by a crocodile. A nearby hippo charges the crocodile, freeing the impala. The hippo then nudges the impala up out of the water and proceeds to gently take the animal's entire head in his mouth in what seems to be an effort to revive the injured impala. Despite the hippo's



Norbert Rosling/National Geographic Image Collection

A wild male polar bear plays with a member of a pack of husky dogs, despite his dominance—and in fact, returned every night to play with the dogs. Though this pairing seems strange, it is a wonderful example of animals' need for "pleasure."

repeated efforts, the impala's injuries were too severe, and the animal did not survive. There is no way of knowing why the hippo felt compelled to help the young impala, or how often hippos exhibit this type of altruistic behavior in the wild.

The motives of a cat who befriends a chicken on an adorable, popular Internet video are also unclear. Narrated in Japanese, the clip shows a rambunctious kitten playing with a tolerant chicken. The cat climbs in and out of the high fenced chicken coop to sleep with the chicken. Amazingly, the cat continues to share the chicken's enclosure, even while growing older. Although the bond between this unlikely pair may have formed due to the kitten's young age, it does not appear to have faltered with time.

We are all aware of the sacrifices guide dogs make for their vision-impaired human companions, but a cat named Libby in Pennsylvania made a similar sacrifice for Cashew, her yellow lab companion. The dog, both deaf and blind, relies on Libby for protection from obstacles and to lead her to her food. Terry Burns, the animals' guardian, describes Libby's actions: "Every night she sleeps next to her. The only time they're apart is when we take Cashew out for a walk."

Another such example involves Mancat and Mary. Mancat, a feline, was raised with a group of dogs—one of whom was Mary, an elderly, blind pug. Mancat would walk beside Mary, guiding her around furniture, leading her outdoors, standing guard when Mary was eating to protect her food from the other dogs, and even guide her up the steps leading to the bed, where they both slept together. It takes a considerable amount of perceptiveness and

compassion for these cats to comprehend that these dogs could not see and to help them navigate through their world.

In the end, the interspecies relationship with which we are most familiar is the one that occurs between humans and animals. Most humans believe in forming bonds with a number of other species, including horses, farm animals, family pets, service animals, and even occasionally wild animals. These examples show that all animals can obtain this same type of enjoyment from one another, regardless of their species. 🐾

Two Sumatran tiger cubs and two baby orangutans, abandoned by their mothers at birth, have become unlikely friends in an Indonesian animal hospital. Though they are enemies in the wild, these pairs prefer to play and snuggle up together.



Associated Press/Achmad Ibrahim

An abandoned kid goat known as Lilly has been adopted by a male boxer named Billy. The dog grooms and protects Lilly as if she were his own child.



Richard Austin



RSPB Images

Bittern Nests Show Promise

A wading bird called the bittern has returned to the United Kingdom's Royal Society for the Protection of Birds (RSPB) nature reserve in Somerset after not being seen in the area for 40 years. Two nests have been found in this reed-bed site created especially for the bittern, making for encouraging evidence that a European Union-funded rescue package has improved the quality of the highly endangered birds' habitats and that some females still remain.

The species, which remains on the IUCN Red List of Endangered Species, actually went extinct in Britain between 1886 and 1911. Though it was reintroduced, by 1997, only 11 males remained. However, while the female population remains nearly extinct, following the rescue work, a high of 55 males was recorded in 2004. Most live in the freshwater wetlands along East Anglia's low-lying coast, where rising sea levels are damaging their traditional reed-bed nesting sites.

"It is great news that at last bitterns are beginning to re-colonize parts of their former range, especially when it's at a site that's been created with them in mind," said RSPB research biologist Simon Wotton, who is also the national organizer of the Bittern Monitoring Program. "The bitterns' core populations are concentrated in areas threatened by sea level rise. The Somerset birds hopefully represent the start of a new population, not subject to this environmental threat." 🐾

Another Yangtze Species Approaches Extinction

In late 2006, China's Yangtze River "Baiji" dolphin became the first cetacean to go extinct in our lifetime, due to an unfortunate influx of development related to the construction of the Three Gorges Dam, as well as overfishing and the depletion of prey species, entanglement in fishing gear, and ship collisions due to increased ship traffic. Now, the Yangtze turtle population has dwindled to three males and one female, mostly due to the animals' popularity in Traditional Chinese Medicine.

No living female was known of until recently, when the Wildlife Conservation Society discovered "China Girl" in the Changsha Zoo in Hunan province. Brought in from a traveling circus approximately 50 years ago, the 80-year-old (still-fertile) turtle is now being mated with a 100-year-old male. Overseers report that considering neither had seen another of their own kind for many decades, and that males are aggressive breeders, the union is developing better than had been expected. 🐾

GOOD AND BAD NEWS FOR RHINOS

There are now more than 21,000 African rhinos—the highest number seen in decades—according to the latest report by the IUCN Species Survival Commission African Rhino Specialist Group. Of these animals, there are 17,480 white rhinos,

listed as "Near Threatened," but up from a population of only 14,540 in 2005. However, despite the increasing numbers of the Southern white rhino, another subspecies called the Northern white rhino is listed as "Critically Endangered" and faces extinction.

Restricted in the wild to Garamba National Park in the Democratic Republic of Congo, poaching reduced the Northern white rhino's population to only four confirmed animals by August 2006. "Worryingly, recent fieldwork



Lake Nakuru National Park, Kenya

has so far failed to find any presence of these four remaining rhinos," said Dr. Martin Brooks, chair of the IUCN group. "Unless animals are found during the intensive surveys that are planned under the direction of the African Parks Foundation, the subspecies may be doomed to extinction."

The rest of the country's rhinos are African black rhinos. This species is listed as "Critically Endangered" on the IUCN Red List, but like the Southern White Rhino, their numbers increased between 2005 and 2007—from 3,730 to 4,180 animals. Though population numbers are improving for most African rhinos, poaching for rhino horns continues to put them at serious risk. 🐾

Australia's Tasmanian Devil to be Listed as Endangered

A strange type of contagious cancer has cut Australia's Tasmanian devil population by as much as 60 percent, and the government decided in May to list the species as "Endangered" on the Endangered Species List. The animals are afflicted by a fast-growing, disfiguring head tumor that is spread by biting and eventually covers their faces and mouths, preventing them from eating—and often causing death within a few months.

Previously listed as "Vulnerable," the world's largest marsupial carnivore is already at risk, and now only lives on the Australian island of Tasmania. In addition to giving Tasmanian devils more protections, the Australian government also plans to breed an "insurance population" of the species in captivity, which could eventually be used to help re-establish population numbers in the wild. 🐾



wikipedia.org

Wild Parrot Trade Banned in Mexico

In late April, the Mexican Senate voted unanimously into law a bill to ban the capture and export of Mexican wild parrots. Originally drafted and approved by the Deputy Chamber last year, the original bill was a response to a report by Defenders of Wildlife and A.C. Teyeliz, entitled "The Illegal Parrot Trade in Mexico: A Comprehensive Assessment." The report was the first to document the illegal trade of these animals. Up to 78,500 of Mexico's 22 species of parrots and macaws are captured for the trade each year, yet 75 percent die before reaching a purchaser. Ninety percent of the birds are already at some sort of risk, with a reported 11 species classified as "In Danger of Extinction," five species classified as "Threatened," four species under special protection, and two species unclassified. 🐾

CARIBBEAN MONK SEAL EXTINCT DUE TO HUMAN IMPACTS

The US government announced in June that, following a 5-year search to locate a Caribbean monk seal and over 50 years since its last confirmed sighting, the species has officially been deemed extinct. The first type of seal to disappear due to anthropogenic causes, the Caribbean monk seal had been listed on the Endangered Species List since 1967. Populations became unstable due to hunting that began as far back as Columbus' second voyage in 1494 and

escalated between the 1700s and 1900s. The animals were first killed for their meat and later for their blubber, skins, scientific study and zoological collection.

The Caribbean monk seal was the only subtropical seal native to the Caribbean Sea and Gulf of Mexico, and now only two additional monk seal species remain. Both the Hawaiian and Mediterranean monk seals are endangered and also at risk of extinction, with populations under 1,200 and 500 individuals, respectively. Some of the threats now facing these animals, including erosion and debris, are reported to be global warming-related, as they are tied to the El Nino weather pattern and rising sea levels. 🐾

In 2006, the Animal Welfare Institute (AWI) created the Christine Stevens Wildlife Award program. As a tribute to AWI's late founder and long-time president, the program supports the development of non-lethal solutions to wildlife conflicts, as well as the non-invasive study of species in their natural habitats. To date, AWI has distributed \$100,000 to 10 diverse research projects. 2006 Award recipient Camilla Fox provides a summary of the humane research she undertook with our support.

Camilla Fox completed her Master's thesis and degree in environmental studies, with a concentration in wildlife ecology, policy and conservation from Prescott College. Her thesis research focused on a comparative analysis of a county-run non-lethal livestock and wildlife protection program in Marin County, Calif. to the US Department of Agriculture (USDA) Wildlife Services' livestock protection program. Marin County, like many counties throughout the western United States, contracted with Wildlife Services to carry out predator control, largely for the benefit of private ranchers.

Public controversy over the use of the potent metabolic poison Compound 1080, leghold traps, and other lethal methods employed by Wildlife Services to control native predators deemed a threat to area livestock led to the county board of supervisors voting to cease contracting with the federal agency in 2000. In place of the Wildlife Services program, the Board of Supervisors approved an alternative pilot program known as the Marin County Strategic Plan for Protection of Livestock and Wildlife, designed to assist ranchers with implementation of non-lethal predator deterrent methods.

A county indemnification program was added to the plan to compensate qualified ranchers for verified livestock losses resulting from predation. According to the Marin County Department of Agriculture, as of 2007, more than 89 percent of Marin's 7,500 sheep were covered under the program, and almost all commercially viable sheep ranchers participate in the program.

Center photo: Camilla Fox and sheep rancher discuss fencing techniques to deter predators.

WOLVES UNDER ASSAULT IN ALASKA

Classified as "big game" and "furbearers" in much of Alaska, wolves can be trapped, snared, and chased with snow machines and airplanes, then shot at point blank range. "Wolves are being killed in Alaska in greater numbers, over larger areas, with more deception and more direct involvement of [Alaska Department of Fish and Game] biologists," says Gordon Haber, an independent wildlife biologist who has been studying wolves in Alaska for 42 years and is a longtime critic of the state's wolf management policies.

Since 2003, aerial permit holders have killed almost 700 wolves in Alaska in a supposed effort to boost caribou and moose populations for hunters. However, aerial wolf control in Alaska remains highly controversial. Alaskans have twice approved initiatives to ban land-and-shoot hunting of wolves, but the state legislature unfortunately authorized the game board to restart the programs after the 2-year initiatives expired. The most recent incarnation of aerial predator control allows gunners to shoot wolves from the air, or land first and then shoot. It has been expanded to five areas of Alaska, some of which also allow the aerial shooting of bears. Another measure to prohibit the practice is slated for the November 2008 ballot.

The lethal ground assault on wolves in Alaska is just as brutal, and saturation neck snaring is a common practice in the state. In April, two wolves were spotted in Denali National Park with snares around their necks. The animals were legally trapped on state land outside the park. They then escaped from the snares—either by breaking the cables or chewing through them—and returned to Denali, their faces and necks swollen from the embedded snares. An Associated Press article described the scene: "The large gray [wolf] has a neck wound where the snare has cut into the muscle, creating a flap of skin that hangs down. The black wolf's face is so swollen he now resembles a bear."

While these animals escaped, death by a strangling snare is ghastly—particularly for wolves, who have



Gordon Haber

Neck snares cause prolonged suffering—and often death—for Alaska's wolves, such as the snared victim shown above.

evolved thick musculature to protect their trachea and common carotid arteries. A victim often struggles for hours, causing a thick suffusion of bloody lymph fluid to accumulate beneath the skin of his or her head and neck. Trappers who skin animals who have died this way refer to them as "jelly heads."

Meanwhile, though wolves are ostensibly protected within the park, the moment they step outside its boundaries, they become fair game to hunters and trappers and risk this violent death. At least three traplines were set this winter outside of the northeast boundary of the park, and as many as 19 wolves have been trapped there, including four radio-collared wolves. Denali Park biologists were able to remove the snare from one of the two wolves, but as of publication time, the other wolf remains missing and is believed dead from the embedded snare.

For \$15, any person with an Alaska driver's license can purchase a trapping license that legally allows the killing of an unlimited number of wolves, of any age or sex, from October or November through April in most areas of the state. Though Alaska's aerial wolf hunting program garners significant public debate, this deadlier ground assault on wolves with snares, traps and guns goes on year after year, often on federal lands, including national wildlife refuges. Haber encourages all Americans to object to the brutal mismanagement of Alaska's wolves; action alerts and contact information are available at www.alaskawolves.org. 🐾



Implementing Successful Non-Lethal Predator Deterrent Methods in Marin County

methods by a majority of participating ranchers; has likely reduced the total number of predators killed to protect livestock; and has reduced the spectrum of species of predators killed to protect livestock.

This innovative plan sets a precedent for meeting a wider compass of community needs and values where both agriculture and protection of wildlife are deemed important by the community. Marin County Agricultural Commissioner Stacy Carlsen, who oversees implementation of the non-lethal cost-share program, explained in an article from a recent issue of *Bay Nature* magazine, "For the first couple of years we couldn't tell if the [loss] reductions were a trend or a blip. Now, we can say there's a pattern....In a few years we'll be a model without anyone questioning our success."

Camilla, who now serves as a wildlife consultant for the AWI, aims to publish and present the findings of her study over the course of the next year. 🐾

Conquering Tragedy to Become Whole:

PROSTHESES IN THE ANIMAL KINGDOM

Prostheses have been used on humans with missing or impaired limbs since the earliest civilizations, and now humans are helping non-human animals use artificial aids to supplement their own impaired anatomies. With the advent of new types of prostheses and techniques to create and attach them, animals who may have otherwise perished or been incapacitated are getting a second lease on life.

“Imping,” a practice once primarily used by falconers to maintain their birds in a pristine condition, is now performed by raptor rehabilitators as well. Simply stated, a section of a damaged or broken feather is replaced with the duplicate section of another harvested feather—from a deceased bird of the same species—with an adhesive.

In addition to harvested feathers, tools for imping often include dried bamboo to make the “bridge” connecting the two feather shafts, dog nail clippers, a utility knife, epoxy glue, paper and a sharpie pen. These basic utensils allow a skilled raptor rehabilitator to perform the procedure and release back into the wild a bird with a natural prosthesis. When accurately executed, imping results in a feather or even multiple feathers as stalwart and functional as the raptor’s previously uninjured flight feathers, and they will stay intact until molted out.

Unfortunately, not all animal prostheses are so cleverly simple, providing animals the opportunity to be released into the wild. However, a synthetic prosthesis may improve the quality of life for many injured animals. Albie the goat, for example, is not your typical amputee. Rescued from the streets by Brooklyn Animal Care and Control officers and brought to Farm Sanctuary in New York, Albie was given a second chance to walk on four legs. He lost the lower half of his left leg last December due to an injury sustained in what is presumed to be a slaughterhouse accident.

Fitted by a certified prosthetist, Albie’s new appendage was attached for the first time in early May. His prosthetist, who also fitted another non-human animal six years ago, stated to *The New York Times*, “I’m not an expert on fitting animals, but I’ve fitted some complicated humans, so I thought it wouldn’t be much more difficult to fit Albie.” Albie exceeded expectations with his ease in adjusting to his new leg, and with some minor adjustments, he should be romping across his farm in no time.

Pierre, a 25-year-old African penguin living at

the California Academy of Sciences, has all of his limbs intact, but recently began to lose his feathers—leaving him shivering in the cold and apprehensive about taking a plunge with his peers in the chilly waters of their pool. African penguins, also known as Jackass penguins because of the loud donkey-like braying noises they make, only reside naturally off the coast of Africa. Unlike other ocean dwelling animals such as seals or whales, who have blubber to keep them warm, penguins use a thin layer of air trapped underneath their feathers as insulation from the cold on land and in the water.

With his loss of the feathers that keep him warm, Pierre was in need of a remedy. Pam Schaller, a senior aquatic biologist working with the penguins,



A titanium upper beak prosthesis is being fashioned for Beauty the eagle, who lost the appendage after being shot by a poacher. Currently, she wears a nylon composite beak that allows her to feed herself.

Images: Birds of Prey Northwest



thought a penguin-sized mini wetsuit might do the trick. A diving gear supplier fitted Pierre for his gear, and fears that the other penguins might reject him were alleviated as soon he waddled around and settled in beside his mate. Pierre’s wetsuit was a success, allowing him to swim in the brisk pool water. His feathers have started to grow back, and he will eventually be weaned off the wetsuit.

Winter the dolphin was just 3 months old when tragedy struck. Trapped in a crab trap line wrapped tightly around her tail, she lost valuable blood circulation before being rescued and taken to the Clearwater Marine Aquarium (CMA), which specializes in the rescue, rehabilitation and release of sick and injured marine mammals. Underweight, dehydrated and with the injuries she suffered due to the carelessness of people, the dolphin’s prognosis was grave.

To worsen her fate, shortly after her arrival to the hospital, Winter’s fluke began to disintegrate and fall off in pieces; within weeks, she lost her entire fluke and two essential vertebrae that power the fluke’s up-and-down movement. Thanks to 100 volunteers, staff and veterinarians spending four months caring for the dolphin around the clock, Winter’s health eventually improved.

After learning how to propel herself forward with her pectoral fins and

developing a side-to-side swimming motion much like that of a shark or fish, rather than the up-down motion of a dolphin, Winter was introduced to an adult companion dolphin, Panama. Even though Winter had surpassed expectations with her capacity for survival, her unique swimming style raises concern for injuries to her spine.

Then came the idea for a prosthetic fin. With the aid of a top human prosthetics company, marine mammal veterinarians and CMA staff, the collaborative effort paid off. Trainers have spent the last year and a half teaching Winter to swim using the typical up-and-down motion of a dolphin with his or her fluke intact. The new prosthetic is used as a cue for her to swim in this normal pattern, with the objective to maintain her ability to swim comfortably when the fake fin comes off.

In 2005, Beauty the eagle was found in an Alaskan landfill, starving and attempting to scrounge for scraps for a meal. Her top beak had been shot off by a senseless poacher, rendering her incapable of grasping food. Left with a stump that exposed her tongue and sinuses, Beauty was unable to preen her feathers, and the simple act of drinking water had become a troubling hurdle she was unlikely to surpass on her own.

After being rescued from the landfill, Beauty spent two years at a bird recovery center being cared for and fed by hand. Her caretakers hoped her upper beak might grow back, but too much damage had been caused by the gunshot. In 2007, biologist Jane Fink Cantwell brought Beauty to her Birds of Prey Northwest ranch, where she continued the daily hand feedings.

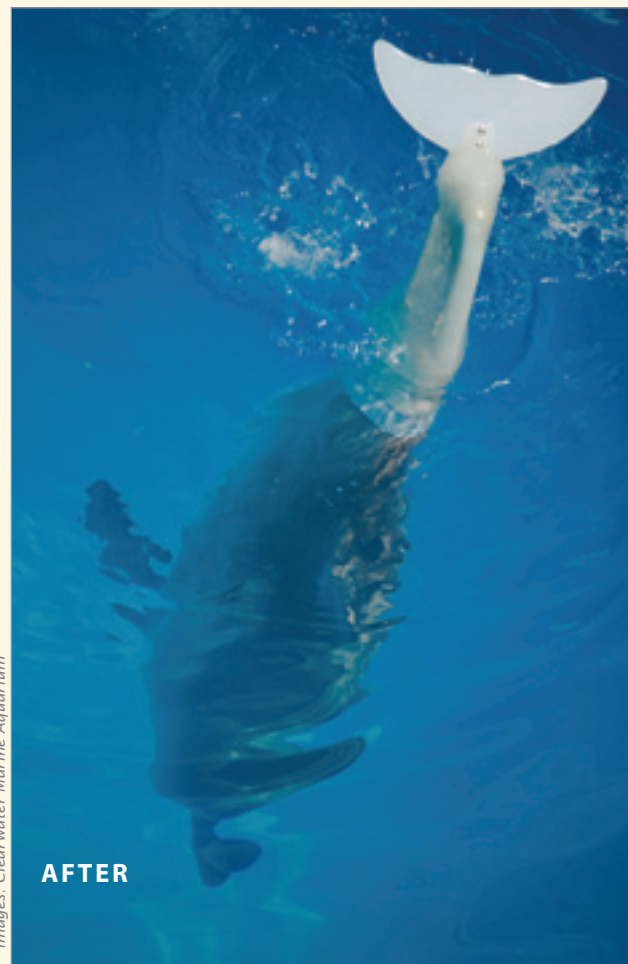
Yet to insure the eagle’s survival, a beak was needed, and it would have to be made of artificial material. Fortunately, Cantwell met Nate Calvin, a mechanical engineer who wanted to help. After spending hundreds of hours working to perfect the molds, Calvin was able to create a beak for Beauty. On May 19, 2008, her temporary beak made out of nylon composite was attached in a garage containing an audience of quiet reporters and special guests.

Beauty’s more permanent beak, fashioned from titanium, will be attached at a later date. Although she will never be released into the wild because her prosthesis does not allow her to tear flesh from prey, she seems to enjoy tackling freshly cut strips of salmon with her new beak. Beauty’s caretakers are also optimistic for her future as a foster mother for orphaned eagles—and agree she is solid proof that humans are not the only species capable of benefiting from prosthetic devices. 🐾

After recovering from a nearly fatal injury that caused her to lose her fluke, Winter the dolphin has been given increased mobility by a prosthetic fluke helping her learn to swim in a normal up-and-down pattern.



Images: Clearwater Marine Aquarium





Biofuels: Bad News for Animals

by NICOLETTE HAHN NIMAN

There's been a lot of talk lately about using agricultural products and byproducts to generate energy—so-called “biofuels.” They're touted as environmentally beneficial and even patriotic. But recent studies have exposed major flaws in the environmental and energy independence claims made by biofuel backers. These studies also raise serious concerns about rising prices and shortages in world food supplies that may result from directing grains and soy toward biofuels. What has not been discussed much is that biofuels may also spell disaster for millions of animals.

Stampede of support for biofuels

Various agricultural crops or wastes can be used for energy, in making fuel for vehicles or as inputs in electricity generation. In the United States, corn is used to make ethanol, a liquid fuel usable for cars. Diesel fuel from agricultural products, referred to as “biodiesel,” sometimes involves creating a gas from manure, then combining it with oil from animal fat or plants (often soybeans or corn). Animal wastes are also used to generate electricity in methane digesters and incinerators.

Supporters claim these various energy forms have multiple benefits. Biofuels, they say, cause less pollution than fossil fuels—so there will be cleaner air and less global warming. They also say biofuels are a smart use of resources because they are made from “renewable” crops, or from agricultural wastes like manure. Finally, biofuel backers often argue that using agricultural products will reduce our dependence on fossil fuels from foreign countries (especially post-September 11) and help us achieve energy independence. (That's where patriotism comes in.)

These myriad purported benefits have helped build broad political support. In 2005, Congress mandated US production of 7.5 billion gallons of biofuels by 2012. In 2007, President Bush quadrupled the goal in calling for 35 billion gallons of biofuels by 2017. To support a domestic industry, Congress has heavily subsidized biofuels and imposed a 54 cent per gallon tariff on imported ethanol.

Inefficient energy

However, not all biofuels are wise public investments. For one thing, they tend to be terribly inefficient ways to produce energy. Ethanol, for example, yields 35 percent less energy per gallon than gasoline, and a full acre of farmland produces only 375 gallons. Cornell University professor David Pimentel has calculated that even if we committed 100 percent of the US corn crop to ethanol, it would replace only 7 percent of vehicle fossil fuel usage. And a 2007 analysis in the journal *Science* concluded that substituting just 10 percent of the world's fossil fuels with ethanol and biodiesel would require 43 percent of US croplands and 38 percent of the European Union's croplands.

Equally inefficient are animal manures in methane digesters, incinerators and biodiesel plants. Manure simply does not contain enough energy to produce cost-effective power. Research at Iowa State University and elsewhere shows that these expensive projects are generally not viable without large public subsidies, and are likely to remain so in the future.¹

illustrations by Sheila Hamanaka

Subsidizing factory farms

Additionally, manure power and other biofuel projects carry substantial downsides for animals and the environment. Publicly subsidizing manure power projects is tantamount to subsidizing the waste disposal costs of large concentrated animal operations. Thus, such subsidies bolster the factory farm industry. By lowering industrial facilities' cost of production, public payments for manure power push family farms further toward the brink of extinction. This is a blow to our natural resources because, by the Environmental Protection Agency's reckoning, industrial animal operations are one of the nation's largest air and water polluters. And the intensive confinement pig, poultry, and dairy operations that hold millions of animals in the United States are increasingly recognized as inhumane.

Ethanol may also further degrade diets at cattle feedlots. Ethanol plants are intentionally located near feedlots to sell their byproducts as feed. Yet studies at two Midwestern universities indicate that ethanol byproducts may increase the prevalence of a deadly form of *E. coli* in cattle. The US Department of Agriculture (USDA) is now studying the connection.

Pollution, erosion and fish kills

Moreover, growing soy and corn crops for biofuels causes tremendous erosion and water pollution. Those crops are now the United States' leading cause of both nitrogen water pollution and soil erosion. University of Iowa researchers warned in 2007 that raising more corn for ethanol would lead to significant increases in nitrogen pollution of drinking water wells, rivers and streams.² Professor Pimentel even argues that fuel from corn cannot be called "renewable" because corn production methods are environmentally unsustainable. Soil loss from corn cultivation is 20-times faster than soil reformation and the crop is the United States' largest user of polluting fertilizers, pesticides and herbicides, Pimentel notes.³

Biodiesel production operations can also cause oil spills. An Alabama biodiesel plant has been sued for spilling oil into the Black Warrior River on 24 occasions. Earlier this year, a Missouri businessman was indicted for dumping biodiesel into a waterway, resulting in at least 25,000 dead fish and a devastated mussel population. In summer 2006, a Cargill biodiesel plant in Iowa Falls spilled 135,000 gallons of liquid oil and grease into a stream, killing hundreds of fish and other aquatic life.

Meanwhile, the stated air pollution benefits of biofuels may be offset by increases in other air pollutants. Manure incineration projects have generated significant air pollution, including sulfur dioxide, nitrogen oxides, and particulate matter. And researchers from Stanford University reported in 2007 that fueling American cars with ethanol would actually increase formaldehyde and acetaldehyde levels. Burning ethanol, they also noted, can exacerbate the ill effects of air pollution by adding more smog-forming pollutants to the atmosphere. University of Minnesota researchers have determined that if just current croplands were used, corn ethanol would reduce greenhouse gases only 12 percent per unit of energy generated. Moreover, the researchers concluded that if croplands were *expanded* for increased ethanol production, there may be a zero benefit to global warming.⁴

Widespread habitat destruction

But biofuels' greatest threat to animals and the environment is from habitat destruction. Raising the mountains of crops needed for ramping up production of ethanol and biodiesel will require vastly expanding American croplands. And, as one commentator put it, growing corn and soy for biofuels "will come from clearing forests, plowing grasslands, or draining wetlands."⁵ In other words, it will eliminate ecosystems occupied by millions of animals.

In particular, the huge bump in biofuel production is expected to destroy millions of acres of grasslands. With substantial financial enticements to grow biofuel crops, farmers are expected to plow just about every available acre of land and abandon *en masse* the Conservation Reserve Program (CRP). CRP is a federal initiative that encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover. In return, farmers receive annual payments for the term of multi-year contracts, usually five or 10 years. Establishing wildlife habitat is specifically listed among the major program goals. CRP is the nation's largest private lands conservation program with more than 36 million acres enrolled.

CRP has been highly successful in conserving land and protecting and even re-establishing wildlife. Government studies document that the program has been critical for many species, including the bobwhite quail, swift fox, short-eared owl, Karner blue butterfly, gopher tortoise,

Louisiana black bear, Eastern collard lizard, Bachman's sparrow, ovenbird, acorn woodpecker, greater sage grouse, and salmon.

The program's beneficial impact on wildlife has even been quantified. A 2007 government study showed it was supporting millions of ducks and grassland birds. And, conversely, the research revealed that without CRP land in the Dakotas, there would be almost 2 million fewer sedge wrens, grasshopper sparrows, bobolinks, and western meadowlarks. Likewise, government research has shown that wetlands in CRP land resulted in an annual increase of more than 334,000 additional breeding ducks in the Dakotas from 1992 to 2004. "Grassland birds are declining more than any other bird group in North America," the research noted.

Biofuel expansion is now perhaps the greatest threat to the prairies and grasslands in which these birds live. Many CRP contracts expire in 2008. The USDA's chief economist has estimated that 7 million acres under the conservation program's protection could be plowed under in the next few years to grow corn for ethanol. Defenders of Wildlife has warned: "Utilizing [native prairie land] for biofuels production would further accelerate the destruction of this pristine, wildlife rich ecosystem."

Proper place for biofuels

Biofuels will certainly have some role in America's energy future. However, their benefits have been overstated while their costs to animals and the environment have been largely ignored. The good news is that energy conservation efforts can actually do more national good than ramped up biofuel production. "[F]rom the standpoint of energy independence, even if the entire US corn crop were used to make ethanol, it would displace less gasoline usage than raising fleet fuel economy five miles per gallon, readily achievable with existing technologies," University of Minnesota economist C. Ford Runge has pointed out.⁶ The stampede toward biofuels must be replaced with thoughtful energy planning that considers animals and the environment. 🐾

Niman is an attorney and a cattle rancher. She has written extensively about industrial animal production, including the forthcoming book *Righteous Porkchop: Finding a Life beyond Factory Farms* (HarperCollins 2009).



¹Hahn Niman, N., "A Load of Manure," *The New York Times*, March 4, 2006

²"US Water Under Pressure as Ethanol Production Soars," *Environmental News Service*, Oct. 10, 2007.

³Pimentel, D., "Energy and Dollar Costs of Ethanol Production with Corn," *Hubert Center Newsletter #98/2*, April 1998.

⁴Hill, J., et al., "Environmental, Economic, and Energetic Costs and Benefits of Biodiesel and Ethanol Biofuels," *Proceedings of the National Academy of Sciences*, July 12, 2006.

⁵Avery, D., "Biofuels, Food, or Wildlife? The Massive Land Costs of US Ethanol," *Competitive Enterprise Institute Issue Analysis*, Sept. 21, 2006.

⁶Runge, C. F. & Johnson, R.S., "Ethanol: Train Wreck Ahead," *Issues in Science Technology*, Fall 2007.

When Long View Farm came to South Dakota to begin construction of a large-scale hog facility in mid-April, tribal members from the Yankton Sioux reservation and their neighbors got together and decided to hold a different kind of welcoming party. The gathering took place on the side of a Bureau of Indian Affairs road near Wagner in Charles Mix County, the only paved access to Long View Farm's new address. Of the more than 100 people who attended, two boys held up signs that seemed to sum up the feelings of everyone there. One read: "Save Mother Earth," while the other one said, "Get the Oink out of here!"

binoculars. Tom Dravland, state public safety secretary, said the highway patrol was there at the request of the county sheriff to ensure public safety, but many of those who stood along the road that day in peaceful protest felt that such an overwhelming show of force was an act of intimidation.

A few days later, *Argus Leader*, the prominent newspaper of Sioux Falls, S.D., published an editorial calling the display racist and condemning the state's response. Additionally, it was reported that the electrical contract for the building of Long View Farm had coincidentally been awarded to the county sheriff's son.

Location, location

The site Long View Farm picked in Charles Mix County in South Dakota is on a hilltop on top of a shallow aquifer and the larger Ogallala Aquifer, and is a few miles from a creek that empties into the Missouri River. It's also not far from a Head Start program for young children, the tribal community center, small farms and ranches, churches, a hospital, a college, wetlands and wildlife reserves that are home to several endangered species and hundreds of bald eagles. "In all of



Stephanie Woodard

creation, they couldn't have picked a worse spot," said Faith Spotted Eagle (Ihanktowan Dakota) in an *Indian Country Today* article.

Long View Farm investors selected this area for the same reasons other investors in large-scale agriculture pick remote areas for development: a lack of zoning regulations. Iowa is the country's top hog producing

state. Long View Farm's 11 investors all come from Sioux County, Iowa, which is the third highest county in hog production in the United States and is spotted with manure spills and fish kills due to hog waste run-off. In the background of this situation, there is a growing grassroots movement of concerned Iowa citizens and family farm activists fighting for changes in state regulations.

Contrast this with South Dakota, where zoning restrictions are sporadic, poor or nonexistent, and environmental regulations are passed on to the county level. Without much fanfare, Long View Farm was given a general permit to build from the state of South Dakota, meaning that it was decided that a long and costly Environmental Impact Study was not necessary. Deb McIntyre, director of South Dakota Peace and Justice, describes the lack of zoning regulations in Charles Mix County as "the perfect storm."

Hogs and disease

Pigs are not indigenous to North America. Their introduction to this continent nearly 500 years ago brought with it dozens of diseases, many of which decimated tribal populations who had no immunity. The effect of these first hogs on North American land was devastating. According to Charles C. Mann, author of the book *1491*, "Swine alone can disseminate anthrax, brucellosis, leptospirosis, taeniasis, trichinosis, and tuberculosis."

Understanding the relationship between disease and hog confinement is an important part of the puzzle in assessing whether an industrial hog facility will do more harm than good for a community. Researchers and scientists have been studying the connections for years. In particular, a 2001 study by Dr. Rustam I. Aminov of the University of Illinois at Urbana-Champaign is cause for concern. The investigators found that antibiotic-resistant bacteria had seeped into underlying groundwater downstream of hog waste "lagoons." These cesspools hold massive amounts of waste from thousands of antibiotic-treated pigs. Long View Farm says its waste storage tanks will be secured underground and that every effort will be made to safeguard the environment. But many residents and protesters familiar with concentrated animal feeding operations (CAFOs) have heard these arguments before.

Of One Mind

As the Yankton Sioux and their South Dakota neighbors oppose construction of a large-scale hog facility, they find a common voice. In their words, "Get the Oink out of here!"

by Tracy Basile

Despite a brief announcement in a nearby town's newspaper, few of the local residents had any idea that an industrial pig farrowing facility of 4,000 sows, producing around 70,000 piglets a year, was moving into their neighborhood until the cement trucks and bulldozers started rolling by. Those who joined together on April 15 in defiance of the corporate investors were Native and non-Native, small farmers and teachers, college students from the University of South Dakota, mothers, grandmothers, aunts, uncles, young children, a Catholic nun, and visitors from Spain, Russia and Palestine.

50 state troopers and 17 arrests

What happened next is shocking. The following day, as protesters started gathering along the road again, 50 highway patrol officers, each in separate cars, arrived on the scene—reportedly more than are normally on patrol at any one time across the entire state of South Dakota. Two snipers were stationed on top of a trailer to watch the crowd through

As tensions within the community mounted, a town meeting was called on April 21. More than 500 tribal members and residents packed into Wagner's National Guard Armory to hear the hog project's supporters and lawyers. It was a contentious evening with

audience members holding signs that said "No hogs!" and "Stop lying!" and booing the speakers as they left.

The next day, 17 tribal members of the Yankton Sioux were arrested and charged with disorderly conduct as they peacefully blocked the road to the construction site. Meanwhile, despite setbacks including a tornado hitting the site on June 5, construction crews have continued working seven days a week. The project is expected to be completed in early 2009.



Pokey Weddell



Pokey Weddell



Stephanie Woodard

Preferring to call themselves "protectors" rather than "protesters," members from the Yankton Sioux tribe have set up a permanent protest site against Long View Farm marked by a tipi and their nation's flag.

No word for “pig”

How hogs are treated in CAFOs goes against traditional tribal values. According to Robin Kimmerer (Potawatomi), director of the Center for Native Peoples and the Environment at the State University of New York-Environmental Sciences and Forestry in Syracuse, NY, in the indigenous paradigm, animals and the natural world are seen as “a community of persons... to be treated with the same respect owed to human beings as members of a community with reciprocal responsibilities.”

In the breeding barn at a typical hog CAFO, a sow is artificially inseminated and placed in a 2 by 7 foot crate or stall, in which she lives during pregnancy. Shortly before giving birth, she is moved to another building and put in a farrowing crate that has a similarly sized area for her to stand or lie in. This crate has side extensions that are accessible only to her piglets, and are intended to prevent



the sow from crushing her pigs. When the piglets are a few days old, their teeth are clipped and their tails are docked to prevent damage resulting from aggressive behaviors that come from confinement.

Confinement is not good for anyone, definitely not the animals.... It's not their way of life, and it's not our way of life, either.” —Oleta Mednansky (Lakota)

After weaning, the piglets are shipped to finishing buildings, where they are kept in pens, each pig receiving just 8 square feet of room in which to move around. The sow is returned to the breeding facility and reinseminated and the cycle starts again. She has around two litters a year.

“Confinement is not good for anyone, definitely not the animals, because they don't understand. It's not their way of life, and it's not our way of life, either,” said

Oleta Mednansky (Lakota) of Rosebud Sioux reservation, referring to an even larger hog operation that threatened her reservation several years ago.

Preferring to call themselves “protectors” rather than “protesters,” members from the Yankton Sioux tribe have set up a permanent protest site against Long View Farm marked by a tipi and their nation's flag. Other tribes, such as the Santee, have sent their flags to express solidarity, but people of any races and nationalities are invited to join.

Gary Drapeau (Ihanktowan Dakota), a Yankton Sioux councilman, is quoted on a youth activist's blog as saying that the coming of the hog factory was “a message to all our Nations that we need to start using one mind as a people and stand together.” The Yankton Sioux and their allies won't give up. Long after the newspaper and television reports have died down, the struggle will continue. Eventually, Drapeau concludes, “it will be a victory for all.” But it won't be easy—it will require every one of us to stand together.

You can make a difference

Last month, the Animal Welfare Institute sent copies of its factory farm documentary “The Pig Picture” and pamphlets about the issue to both Native and non-Native activists in South Dakota. Please help the effort by writing a letter voicing your opposition to Long View Farm. Send your original letter to Governor Mike Rounds and a copy to Secretary of Agriculture William Evan and Yankton Sioux Tribe Vice Chair John Stone:

- Governor Mike Rounds, Office of the Governor, 500 E. Capitol Ave., Pierre, SD 57501
- Secretary of Agriculture William Evan, South Dakota Department of Agriculture, 523 E. Capitol Ave., Pierre, SD 57501
- Yankton Sioux Tribe Vice Chair John Stone, P.O. Box 248, Marty, SD 57361

Additionally, if you would like to provide support to the tribe for its legal battle, checks can be sent to:

- Yankton Sioux Tribe Hog protest, Attention: Treasurer Leo O'Conner, P.O. Box 248, Marty, SD 57361 🐾

Organic Dairy Breaks USDA Rules

A supplier to Dean Foods Co., the nation's largest dairy processor, has been accused of confining its cows on a feedlot instead of letting them roam on pasture—in defiance of federal rules on organic production.

Cornucopia Institute asked the US Department of Agriculture to investigate the Fagundes Brothers Dairy after officials from the Institute and other neighboring organic dairy farmers reported seeing cows being confined, even in good weather. According to federal law, dairy marketed as organic must come from cows who have access to pasture.

Certified organic six years ago after transitioning from a conventional operation, the Fagundes facility milks about 3,000 cows on three sites. The owner says he pastures his cows on about 700 acres roughly from May through September, depending on weather, though Cornucopia Institute reports there is evidence against this claim. 🐾

E. coli Case Settled for \$13.5 Million

Eight years ago, 3-year-old Brianna Kriefall and 140 other people became ill after eating at a Sizzler in South Milwaukee. E. coli-contaminated meat that had come from Excel Corp., a subsidiary of Cargill, had been served at the restaurant. Though Brianna did not eat the meat, she did eat watermelon that had been contaminated by it, and she died as a result. Initially, Excel denied that its product caused the outbreak, but genetic testing proved otherwise. In June, the company agreed to pay Brianna's family \$13.5 million, the second-largest settlement in the nation involving a food-borne illness, and perhaps the largest award for a single victim. 🐾



The conditions under which Tysons raises its chickens are anything but “natural.”



Tyson Deceived the Public to Rake in the Profits

Last year, Tyson Foods, Inc. began a media campaign using advertisements dishonestly claiming that its chickens are “raised without antibiotics.” The multimillion dollar effort, which resulted in an additional 70 million pounds of chicken sold by the company last year, included posters and brochures distributed to 8,500 grocery stores across the country.

However, Tyson's efforts to dupe the public were soon uncovered by the company's competitors. Sanderson Farms and Perdue Farms sought an injunction against the firm, arguing that Tyson's “raised without antibiotics” claim misleads consumers and has caused irreparable harm by implying products from competitors contain antibiotics or dangerous additives. While the deceptive new campaign was a major success for Tyson last year, Sanderson and Perdue reported respective losses of a \$4 million account and \$10 million in revenue.

Meanwhile, Tyson officials have admitted to engaging in the “common industry practice” of injecting eggs with antibiotics a few days before they hatch. A representative of the company said injecting eggs with antibiotics does not go against the label because the term “raised” only covers the period that begins with hatching. In addition, Tyson puts another type of antibiotic known as an ionophore in the feed given its chickens. Ionophores, which are not used to treat human diseases, are commonly given to industrially raised farm animals. Ionophores are also used by Sanderson and Perdue.

Finally, Tyson was ordered by a US District Court in April to remove all of its advertisements that claim that its chickens are raised without antibiotics. However, since May, consumers in several states have also been filing suit to challenge the marketing claim, alleging false advertising throughout the entire campaign and seeking compensation.

In addition to the legal actions against Tyson by its competitors and consumers, the US Department of Agriculture's Food and Safety Inspection Service (FSIS), which had originally supported the company's request to label its products as antibiotic free, has changed its position. Now that it has all the data available, including the ruling from US District Court, the FSIS has rejected both the original label claim and a revised version proposed by Tyson, which stated “raised without antibiotics that impact human antibiotic resistance.” 🐾

THE U.S. ADMINISTRATION SELLS OUT TO WHALERS

The annual meeting of the International Whaling Commission (IWC) in Santiago, Chile concluded on June 27 with confusion and uncertainty over the future of the 60-year-old body and, more importantly, the fate of the world's whales. Key to this uncertainty was the actions of the United States, which holds the current chairmanship of the IWC. The nation that was instrumental in helping to pass the international ban on commercial whaling may now be responsible for its return.

Ahead of the meeting, concurrent resolutions were introduced in both chambers of the US Congress, calling for strong leadership at the meeting, specifically for the US delegation to uphold the commercial whaling moratorium, work to close the loopholes that allow special permit whaling and continued commercial whaling despite the moratorium, oppose the creation of any new categories of whaling, and push for a whale conservation agenda. The House version passed unanimously on June 18, sending a clear message to the US delegation that was further bolstered by a congressional hearing on the issue.

At the hearing, held by the House Subcommittee on Fisheries, Wildlife and Oceans, William Hogarth, chair of the entire IWC and presidentially appointed US Commissioner, was grilled about the incongruity of these roles—pushing to “fix” the IWC as Chair while working under a stated mandate to fulfill the long-held US position of opposition to a resumption of commercial whaling. Sadly, in the end, the “fix” role won out, and the US administration's true colors on the lack of importance it places on whale conservation came embarrassingly to light.

The die was cast over a year ago when the term “impasse” was first articulated to describe the IWC. In the intervening months—with growing divisiveness among its 81 member nations, an escalating body count, and threats from whalers to kill more species and more animals—rumblings from Hogarth that the body was dysfunctional were warmly received by the Commission and sadly received by some observers. A March intercessional meeting in London, presided over by

international “experts” on conflict resolution, further polarized the body and convinced any wavering members that the IWC was in need of salvation. Like several previous IWC chairs wishing to leave their mark, Hogarth made an offer: an 8-step plan to “move the IWC forward” by developing a compromise “package,” crafted without public participation or scrutiny, for presentation and agreement at the 2009 IWC meeting.

Hogarth admits that there “will be no outright winners or losers” in his package. However, whales will certainly lose, for if the package is to be agreed upon by the whaling nations and their allies, then it must include some measure of commercial whaling. Hogarth has consistently justified his attempts at compromise by stating that something must be done to reduce the number of whales being killed. While the Animal Welfare Institute (AWI) agrees that the number must be reduced, this package is not the answer. It will instead result in the sanctioned killing of more whales, not less, and it will set dangerous precedents by rewarding those who abuse an international convention, and promote international negotiations behind closed doors.

Ironically, the US-led effort of compromise comes at a time when Japan's whaling industry is suffering economic collapse, only surviving because of substantial government subsidies. With a declining demand, tons of whale products remain on ice as the government struggles to find a market—beyond force feeding the meat to school children—that does not exist. More Japanese are also learning of the high level of contaminants found in cetacean meat and are growing increasingly incensed by the government's misuse of their tax dollars to keep a sinking industry afloat.

Instead of letting the coffin close on this despicable industry, the US is giving it new life by attempting to assuage Japan and prevent it from following through on its baseless threats to leave the IWC. Sadly, many countries have been duped into subscribing to this plan instead of boldly opposing the actions of these rogue whaling nations by using all domestic and international tools available to compel them to embrace the will of the majority. Finally, instead of



Japan tries to justify its Antarctic whaling program as satisfying “research” needs, but the program is commercially driven, with the meat being sold in supermarkets and restaurants.

Image courtesy of Australian Customs

demanding the modernization of the IWC to make it a viable conservation body in line with other international treaties, members are being steered by the US down a dangerous path of compromise that will only further exacerbate the threats to whales and undermine public will that demands their protection, not persecution.

Two days of “IWC future” discussions ahead of the plenary led to the creation of two working groups: one to



A staggering 11,000 whales have reportedly been killed for “scientific research” since the 1986 ban, mostly by Japan. This minke whale was killed by Japanese whalers in Antarctic waters last year.

Image courtesy of Australian Customs

develop the chair's package and another to focus on procedure. A private Commissioner's meeting held the afternoon before the plenary reportedly continued these discussions and a series of “elements” for the package began to emerge.

After the pomp of the opening ceremony had died down on the first day, the meeting started with an unusual air of conviviality. Without the hostility and antagonism usually displayed at IWC meetings, coupled with the preceding secret discussions about the future of the body, suspicions were soon raised that this would be no ordinary meeting.

It was not. No resolutions were proposed during the five days, and only a single vote was held on a proposed schedule amendment request by Denmark for a quota of 10 humpback whales for aboriginal subsistence whalers in

Greenland. The country's natives already have quotas to kill minke, bowhead and fin whales, and a recent explosive report by the World Society for the Protection of Animals found that up to a quarter of the meat derived from killing these whales, supposedly for subsistence use, actually ends up in supermarkets for commercial sale.

This ridiculous request was therefore rightly opposed by all the staunch conservation-minded countries, except the United States, which voted alongside Japan, Norway, Iceland and the other pro-whaling bloc. Fortunately, the proposal needed a three-quarters majority to pass, so it failed—but it served to make the United States' loyalties clear. After the Danish vote, the meeting broke down into the usual squabbles and irrelevant oratories typical of IWC meetings. The final day saw some resumption of cordiality, but after a few hours, the meeting adjourned and the “elements” working group reconvened in secret. Some believe the covert discussions on the package are doomed to failure, as were previous efforts. Nevertheless, the coming year will be a difficult time for whales, with of course, more being killed while the IWC tries to “fix” itself.

CHILE SUPPORTS THE WHALES

On the eve of the opening day of the IWC, AWI and The Whaleman Foundation took the *Save the Whales Again!* campaign to the streets of Santiago. Over 1,000 activists gathered for an outdoor rally led by Chilean actress Leonor Varela, who called for an end to whaling worldwide and encouraged the creation of a global whale sanctuary. Varela was joined by Skye Bortoli of Australia's Teens Against Whaling, and Surfers 4 Cetaceans professional surfers Ramon Navarro and Dave Rastovich.

Rastovich spoke about the need to protect dolphins and other small cetaceans, and the group unveiled an impressive visual petition featuring photographs of thousands of individuals encountered on their global crusade. AWI also distributed *Save the Whales Again!* t-shirts, and the crowd created a gigantic human whale, choreographed by aerial artist John Quigley,



Aerial artist John Quigley directed a massive crowd of activists to form a “human minke whale” inside a global “santuario” ahead of this year's IWC meeting in Chile.

Jeff Panukhoff/Spectral Whaleman Foundation

based on a design by Chilean artist Francisco Letelier. Later, AWI hosted a VIP reception, where delegates and observers were able to hear a heartfelt speech about Chile's dedication to cetacean conservation from the guest of honor, Chilean Minister of the Environment Ana Lya Uriarte Rodriguez. The next day, she announced Chilean President Michelle Bachelet was to dedicate all the country's waters as a whaling-free sanctuary.

Attendees were also entertained by several short films, including Jeff Pantukhoff's *The Minke Whale*, a film showing rare close-up footage of these much-maligned creatures. Surfers 4 Cetaceans showed *Minds in the Water*, a photo montage of images from its visual petition. Finally, the Chilean group Centro de Conservacion Cetacea and the Oceanic Preservation Society presented an excerpt from a visually disturbing film directed by famous photographer Louie Psihoyos. The movie, which will be released next year, includes recent undercover footage of whalers slaughtering dolphins in Taiji, Japan at the annual drive hunts. 🐾



Justin Krumb

Young supporters of AWI and Whaleman Foundation's Save the Whales Again! campaign gather in Chile to rally for the cause.

WHALE KILLERS WHO FLOUTED THE LAW ARE SENTENCED

AWI Quarterly readers may recall that in September 2007, five members of the northwest Washington state Makah tribe brutally killed a gray whale in violation of federal law—with the animal taking over 10 hours to die after being struck by four harpoons and 16 bullets. Ultimately, they were all charged with violating the Marine Mammal Protection Act (MMPA) and Whaling Convention Act—and on June 30, after months of legal wrangling, the members were finally sentenced by Judge J. Kelley Arnold.

Unfortunately, some charges were dismissed, and the three defendants who pled guilty to killing the whale in violation of the MMPA were sentenced to two years of probation, assessed a minimal fine, and given mandatory community service; a mere slap on the wrist given the severity of their crime and the suffering of the whale caused by their illegal act. To make matters worse, the judge agreed with the prosecution that they should fulfill their community service by participating in marine mammal counts in the Pacific Ocean near the Makah's Neah Bay reservation. This sentence effectively amounts to a few weeks of whale watching.

For the two defendants convicted during a bench trial, both deemed to be leaders of the hunt, the penalty was more severe. Wayne Johnson, a former Makah whaling commissioner, will spend the next five months in federal prison, followed by probation and community service. Andy Noel was sentenced 90 days in prison, in addition to probation and community service. Considering the severity of their crimes, the penalties imposed on the five defendants should have been far more severe. Even within

tribal court, despite promises of swift and just prosecution, the defendants got off easy. After the judge determined that an impartial tribal jury could not be empanelled, he deferred prosecution pending the defendants' compliance with the penalties imposed by the federal court.

Disturbingly, prior to sentencing, two defendants reported that the Makah Tribal Council was aware of and had approved the illegal hunt. According to defendant Theron Parker, then tribal chairman Ben Johnson, when asked about the possibility of going whaling, said "go ahead and get one." He also stated, "I think it's time to go fishing," referring to whaling, causing the entire council to reportedly nod in agreement. Defendant Noel disclosed that many members of the tribe knew about the hunt which facilitated his access to both weapons and a boat used in the hunt.

The US Department of Justice and the National Marine Fisheries Service (NMFS) has a duty to open a new investigation into these allegations of tribal council involvement in the illegal hunt. If proven to be true, the NMFS must terminate its 12-year multimillion dollar effort to help the Makah tribe resume whaling.

After legally killing a gray whale in 1999, the Makah have been prevented from whaling due to a court order requiring a more detailed review of the hunt's environmental impacts and the issuance of a waiver to the tribe to override the prohibitions against killing marine mammals contained in the MMPA. The government is currently accepting public comment on a new Environmental Impact Statement on the proposed hunt. 🐾

A Study of the Impact of Environmental Enrichment on *Xenopus Laevis* Oocytes

By Jennifer Harr, BS; Leanne Coyne, PhD; Ash Chaudhry, MS; and Robert F. Halliwell, PhD.
TJ Long School of Pharmacy & Health Sciences, University of the Pacific, Stockton, Calif.



Tad Arensmeier

THE AFRICAN CLAWED FROG, *Xenopus laevis*, is widely used in developmental biology, embryology, molecular biology, and, for their oocytes, in neuro-pharmacology (Brown 2004). Academic labs and the pharmaceutical industry extensively utilize *X. laevis* oocytes to express recombinant nerve cell receptors and ion channels in drug studies and drug discovery efforts.

In all cases, the quantity and the quality of oocytes is critical for the collection of reliable data. Any protocol that can enhance the quality and quantity of oocytes would therefore reduce the total number of animals needed. With support from the Animal Welfare Institute, we conducted a study using electrophysiological techniques to test the hypothesis that environmental enrichment for *X. laevis* leads to an improved quantity and/or quality of oocytes.



Robert F. Halliwell

Frogs are housed in a large water tank. The left side of the tank is the unenriched environment and the right side is the enriched.

Female *X. laevis* were housed in a large water tank, divided into two halves by a perforated Perspex sheet. One half of the tank was in a standard (unenriched) condition, and the other half was enriched by the addition of small functional items, including a plastic hollow log, a rocky cave and several plastic aquarium plants. All frogs were maintained on a 12 hour light/ 12 hour dark cycle at 21 to 23°C and fed once every three days.

Ovulation of *X. laevis* was induced by injection of human chorionic gonadotropin (Sive *et al.*, 1998). Membrane characteristics were recorded from *X. laevis* eggs using a two-electrode voltage-clamp technique (Halliwell *et al.*, 1999). The data is expressed as the mean \pm s.e.m of n experiments. For statistical comparisons, the Student's t-test was used.

The average membrane potential of eggs from *X. laevis* maintained in an enriched environment was -17 ± 1.1 mV

($n=89$ eggs from 5 frogs) and -11 ± 0.8 mV, ($n=84$ eggs from 5 frogs) from animals housed in the standard environment. These values are significantly different (at $p \leq 0.001$), but are much lower than the average membrane potential of -41 ± 1.3 mV ($n=63$ cells from 3 frogs) when oocytes are removed surgically.

Membrane resistances determined for eggs obtained from *X. laevis* exposed to an enriched environment were 0.69 ± 0.1 M Ω , ($n = 36$ eggs from 5 frogs) and 1.1 ± 0.2 M Ω ($n = 45$ from 5 frogs) from frogs maintained in standard conditions. These values are not significantly different. The average membrane conductance determined for eggs obtained from animals maintained in the standard environmental condition was 2.6 ± 0.5 μ F ($n = 45$ eggs from 5 frogs) and 3.0 ± 0.4 μ F ($n = 36$ from 5 frogs) for eggs obtained from frogs housed in the enriched environment. Again, these values were not significantly different.

Although not quantified, frogs appeared to prefer having places to hide, since they were frequently observed in the cave or under the rock or plants. Frogs exposed to an enriched environment also released more eggs, with a significant increase in membrane potential compared with eggs obtained from frogs in standard laboratory conditions. However, surgically obtained oocytes are viable *in vitro* for up to one week longer than eggs obtained by the induction of ovulation, making oocytes more suitable for longer term (e.g. electrophysiological) studies. Nonetheless, the subtle improvement in the quantity and quality of eggs in this study suggests that it may be beneficial to incorporate environmental enrichment into experiments that utilize *X. laevis*. 🐾

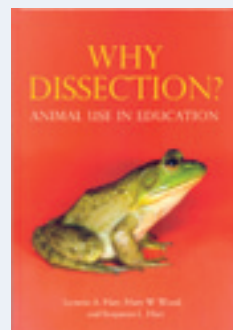


Robert F. Halliwell

Oocyte quality is important for data collection.

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Why Dissection?

Hart LA, Wood MW, Hart BL. 2008. Westport, CT: Greenwood Press. Pages: 240

All is not well in the state of US science education. Schools are oriented to improving student scores rather than students. There is a striking shortage of highly qualified male college applicants. Science

education and health and sex education are separated in the curriculum. Seventh grade is the last year that biology is required of American students. Not surprisingly, students emerge poorly prepared to take responsibility for their personal health.

These are some of the tidbits I gleaned from *Why Dissection?*—a thorough if not sparkling analysis that includes the perspective of students, teachers and the animals. One of the book's best sections is an engaging, generously illustrated and sometimes lurid account of the social, political and even criminal history of acquiring human bodies for dissection.

But the most remarkable thing about the school dissection exercise is that it has remained virtually unchanged in the past 50 years, a period marked by stunning advances in technology and other aspects of science education. Today, the use of animals in medical education has all but disappeared, and veterinary education has evolved to a more clinical approach largely non-consumptive of animals. And what a travesty that institutional approval is required (and sometimes denied) for animal use practices in college that have no oversight in the pre-college curriculum!

The authors lament the dearth of attention given to teachers in the dissection controversy, and while teachers themselves are partly responsible for this void, one must sympathize with the burden faced by any teacher interested in exploring dissection alternatives. The proliferation of computer simulations and other materials, catalogued by the thousands in online databases, represent a double-edged sword. How does a biology teacher wade through all the choices and decide what is or is not an appropriate, high-quality learning tool? This might be a leading cause of stagnation on the dissection issue.

Among the suggested solutions is an organized effort to build a database of instructor-rated materials. The European Centre for Alternatives, which includes user-reviews, is a hopeful step in that direction. It seems unlikely that the pro-dissection National Association of Biology Teachers will take this on. If the authors' prescription for change is correct, the pro-animal organizations might do well to focus more of their energies on making the transition to alternatives as easy as possible for teachers.

Paradoxically, the authors assert that "...dissection of animal cadavers is on its way out." (p. 91), when there is little data here to support it for pre-college curricula. More perplexing is that in an era of unprecedented public concern for the environment, and of critical declines in global frog populations, frog dissection marches along as if nothing has changed in the 90 years since it began. The time is ripe for an in-depth investigation into the details of the frog supply trade. The last and perhaps only time this was done was an extensive 1971 exposé published in *BioScience*, which documented inhumane and wasteful conditions of transport, housing and processing of frogs (Gibbs et al. 1971).

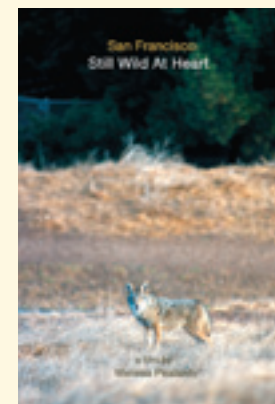
In the early 1960s, the Biological Sciences Curriculum Study (BSCS) introduced the 5E instructional model: engage, explore, explain, elaborate, and evaluate. This solid foundation sorely needs another 4Es: environment, ethics, education, and economics. All will be served when the frogs are finally left in the wetlands (or at least put back) and biology is taught without killing. 🐾

— by Jonathan Balcombe, Senior Research Scientist, Physicians Committee for Responsible Medicine

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Balcombe is author of *The Use of Animals in Higher Education: Problems, Alternatives, and Recommendations* (Humane Society Press, 2000) and *Pleasurable Kingdom: Animals and the Nature of Feeling Good* (Macmillan, 2006).



San Francisco—Still Wild at Heart

www.stillwildatheart.com
Runtime: 55 minutes

San Francisco—Still Wild at Heart is a virtual case study of the coyote's natural range expansion across the national landscape, from San Francisco to Chicago and New York City. Through interviews with coyote experts, ecologists and researchers in this compelling film, we learn about the remarkable adaptability and intelligence of the coyote and the challenges and opportunities the animal's presence provides to both urban and rural communities.

AWI wildlife consultant Camilla Fox is featured in the film, discussing the problems with traditional coyote management and the important role coyotes play in a variety of ecosystems. Camilla also describes an innovative community-based,

non-lethal livestock and predator protection program that she helped develop in her home county of Marin, Calif.—for which she received an AWI Christine Stevens Wildlife Award to analyze as part of her Master's thesis project (see story, page 11).

San Francisco—Still Wild at Heart entertains as it informs, providing valuable information and insights into the unfolding life history of the ever adaptable, resilient and clever coyote—America's iconic canine. 🐾



RED: A Tragic Moral Tale

www.magpictures.com
Runtime: 98 minutes

RED is a cautionary story about a man who seeks justice when his dog is killed by three teens. When the perpetrators lie, their parents wrongly protect them, and the man takes matters into his own hands—leading to tragic consequences. Producer Norman Dreyfuss says he hopes the film will encourage viewers to "have more compassion and to make the kinds of choices that enable them to look in the mirror and say they do what's right in life." 🐾

Blinders

www.blindersthemovie.com
Runtime: 53 minutes



A ride in a horse-drawn carriage is on the itineraries of many New York City tourists, but if documentary filmmaker Donald Moss' film *Blinders* accomplishes his goal, many of them will soon think twice. In just the past two years, three fatal accidents—and many more that caused injuries—have occurred due to this inhumane and unsafe trade. Featuring hidden camera footage and interviews with carriage drivers, veterinarians, witnesses of accidents, activists, politicians, tourists, and residents who live near the horses, the documentary shows viewers the reality of this romanticized attraction.

Easily frightened, horses must wear "blinders" to shield their views of the dangerous traffic that surrounds them. At the end of the day, they are housed in cramped, sub-optimal facilities where they cannot graze. Further, retired horses are often "thanked" for their years of service by being sent to auctions that serve as a gateway to slaughterhouses across the US border. In addition to exposing these and other hidden facts about the industry, the film offers suggestions about what concerned viewers can do to help these horses. To learn more and to view the theatrical trailer, visit the *Blinders* homepage at the URL listed above. 🐾

BEQUESTS

If you would like to help assure AWI's future through a provision in your will, this general form of bequest is suggested:

I give, devise and bequeath to the Animal Welfare Institute, located in Washington, D.C., the sum of \$_____ and/or (specifically described property).

Donations to AWI, a not-for-profit corporation exempt under Internal Revenue Code Section 501(c)(3), are tax-deductible. We welcome any inquiries you may have. In cases in which you have specific wishes about the disposition of your bequest, we suggest you discuss such provisions with your attorney.

USDA Inspectors Raid Walking Horse Show

In early July, the US Department of Agriculture (USDA) effectively shut down one of the largest walking horse shows in Kentucky. Escorted by state police, USDA inspectors arrived on the last two days of the 4-day show. About 500 horses were present, but once the USDA arrived, horses were loaded into trailers by their owners and removed from the premises to avoid possible prosecution for violating the Horse Protection Act. A mere 40 horses remained. Clearly, soring—the infliction of painful injuries on the feet of horses to exaggerate their gait—continues to be a widespread problem in the industry. Fortunately, the USDA appears to be doggedly determined to enforce the law against the practice, first passed in 1970, and is aided by new technology that allows inspectors to detect the foreign substances often used to injure the horses and thereby achieve a show-winning gait. 🐾



Liz Ross/AWI

NBFA President John Boyd walks with a mule on his farm in Virginia.

Black Farmers Offer Homes for Horses in Need

The Animal Welfare Institute joined with the National Black Farmers Association (NBFA) this June to form a national partnership to help American horses in need by finding them homes on farms operated by NBFA members. “Project Wanted Horse” will ensure that horses rescued by equine protection organizations, from the slaughter pipeline, or from an abusive situation are placed on farms operated by the NBFA’s 94,000 members across the country. 🐾



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