

AWI

Quarterly

Spring 2009 Volume 58 Number 2



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ABOUT THE COVER

This sea otter in the Prince William Sound of Alaska may be identified and studied from a distance, avoiding stress and injury to the animal thanks to a photographic computer system called the Sea Otter Nose Matching Program, or SONMaP. (See page 19 for study findings.) The pristine-looking waters of the Prince William Sound belie the pollution that remains from the Exxon Valdez oil spill two decades ago. On the shore, just below the surface, the oil is readily apparent. (See the back cover for the full story.)

Photo by Michael Gore/FLPA/Minden Pictures

Circus Finally Exposed in Federal Trial

THE ANIMAL WELFARE INSTITUTE'S case against Feld Entertainment, Inc., the parent company of Ringling Bros. and Barnum & Bailey Circus, finally went to trial in February. We charged the circus with violating the Endangered Species Act by beating elephants with ankuses and chaining them for unhealthy periods of time. The six-week-long courtroom battle concluded with lead counsel Katherine Meyer's closing remarks, citing portions of a passage from Rudyard Kipling's 1895 work, *The Second Jungle Book*. In the chapter titled "The King's Ankus," Mowgli, a boy raised by wolves in the Indian jungle, is taken to see the king's treasure:

At last [Mowgli] found something really fascinating buried in the coins. It was a three-foot ankus or elephant gode, something like a small boat hook. The top was one round, shining ruby, and eight inches of the handle below it were studded with rough turquoises close together, giving a most satisfactory grip.

Mowgli said to the white cobra, "These coins are by no means good to eat, but this," he lifted the ankus, "I desire to take away that I may see it in the sun."

And when they went back in their own jungle and Mowgli made the ankus glitter in the morning light, he was almost as pleased as though he had found a bunch of new flowers stuck in his hair. He woke Bagheera, the tiger, and asked, "For what use was this thorn-point thing made?"

"It was made by men to thrust into the heads of elephants," said Bagheera. "That thing has tasted the blood of many elephants."

"But why do they thrust into the heads of elephants?"

"To teach them man's laws. Having neither claws nor teeth, men make these things, and worse."

"If I had known this I would not have taken it," said Mowgli. "I will use it no more," and he threw the ankus in the air. The ankus flew sparkling and buried itself point down thirty yards away between the trees. "So my hands are clean of blood," said Mowgli, rubbing his hands on the fresh, moist earth. 🐾

For an account of what transpired at the trial, see the full story on page 14.



Kurt Wiese

Illustration of Mowgli holding an ankus from All the Mowgli Stories, a collection of short stories by Rudyard Kipling, originally published in 1893.

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Above Left: Purple martins shocked researchers last summer when they completed a migration from Pennsylvania to Brazil in less than a month. (Photo by Tom Vezo/Minden Pictures); **Top Right:** The living and working conditions carriage horses endure day after day are far from a quaint picture. (Photo by Donny Moss); **Bottom Right:** Because of the premeditated way in which he collects stones to later launch at zoo visitors, a 30-year-old chimp in a Swedish zoo is giving researchers insight into primates' thought processes, which may be far more complex than previously understood. (photo by iStockphoto).



A NEW CONGRESS FOR ANIMAL WELFARE

The 111th Congress holds great promise for the Animal Welfare Institute's (AWI) legislative agenda. Three bills that have the organization's strong support were introduced in the U.S. House of Representatives early this year—two protecting horses from the horrors associated with slaughter, and one sparing sharks a cruel death.



Horses stand to benefit from two bills being debated in Congress this year, one imposing stricter regulations on horse transport, the other outlawing horse slaughter.

Protecting Equines from Slaughter

The Prevention of Equine Cruelty Act (H.R. 503), reintroduced by House Judiciary Chairman John Conyers (D-Mich.) and Rep. Dan Burton (R-Ind.), will criminalize activities associated with the slaughter of horses for human consumption.

While no horse slaughter plants are currently operating in the U.S., there has been an effort by pro-slaughter interests to establish plants in some states. Meanwhile, more than 100,000 American horses were exported to Canada and Mexico for slaughter last year, enduring horrendous conditions in transport.

Passage of the bill, which is up for consideration and expected to quickly pass out of the Chairman's committee, will stop the exports while ensuring plants don't re-open on U.S. soil. A Senate companion bill (S. 727) has also been introduced by Sen. Mary Landrieu (D-La.) and Sen. John Ensign (R-Nev.).

Ending Inhumane Horse Transport

Congressional concern for equine welfare has also spurred the introduction of the Horse Transportation Safety Act of 2009 (H.R. 305), sponsored by Rep. Mark Kirk (R-Ill.) and Rep. Steve Cohen (D-Tenn.). The bill will prohibit the transport of horses and other equines on double-deck cattle trailers, which are regularly used by killer-buyers to haul horses to slaughter. Designed for shorter species like cattle and pigs, the trailers offer insufficient head room for many horses, who are forced to travel in a bent position and are often injured during loading, transport and unloading.

Top-heavy, the trucks are prone to tipping over, as illustrated by the Wadsworth Crash of 2007, when a double-deck cattle truck carrying 59 Belgian draft horses overturned in Wadsworth, Ill. It took firefighters, volunteers and other rescue personnel more than five hours to free the horses from the truck. By the time they were able to do so, nine had died. Six more died later, due to injuries suffered during the accident.

Stopping the Finning of Sharks

The Shark Conservation Act (H.R. 81) is another key piece of legislation reintroduced this session, which will end the practice of shark finning. The bill's champion, Rep. Madeleine Bordallo (D-Guam), chairs the House Natural Resources Subcommittee on Insular Affairs, Oceans and Wildlife, which has primary jurisdiction over the bill.

In 2000, President Clinton signed the Shark Finning Prohibition Act in an effort to curb the wasteful and inhumane practice, whereby the fins of a living shark are hacked off, and the animal is thrown back in the water to die. This legislation made it unlawful to possess a shark fin in U.S. waters without a corresponding carcass.

Unfortunately, enforcement has been hampered by loopholes in the law. The Shark Conservation Act of

2009 would strengthen the original law by requiring that sharks be landed with their fins naturally attached to their bodies. Enforcement officials have stated that this requirement is the best way to uphold a shark finning ban. 🐾



Richard Ling

Obama Administration Restores Scientific Review to ESA

THE OBAMA ADMINISTRATION is to be congratulated for its restoration of a key scientific review provision of the federal Endangered Species Act (ESA). Before President Bush left office, his administration removed an ESA requirement compelling federal agencies to consult with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service prior to taking action that might harm threatened or endangered species.

A memorandum issued by the Obama administration in March announced that the rule will be re-established, subject to a review by the Secretaries of Commerce and the Interior. With the review complete, the rule was reinstated on April 28. Interior Secretary Ken Salazar noted that, "By rolling back this eleventh-hour regulation, we are ensuring that threatened and endangered species continue to receive the full protection of the law."

While this is great news, we still await the rescinding of a rule affecting polar bears, who also had protections removed by the previous administration, which refused to consider the indirect adverse consequences of global warming on the species. 🐾

Congressional Directory Now Available from AWI

THE ANIMAL WELFARE INSTITUTE often asks that its supporters contact members of Congress on various animal welfare bills and issues. Now it is easier to locate your elected officials, as we have just released a portable directory of the 111th Congress. The handy full-color booklet includes contact information for all governors, federal legislators and House and Senate committees. If you are interested in purchasing a copy for the cost price of \$8.00 (includes S&H), please contact our office by phone or send a check or money order to:

Animal Welfare Institute
Attn: Congressional Directory Order
900 Pennsylvania Ave., SE
Washington, DC 20003 🐾



istockphoto

ARKANSAS BUCKLES DOWN ON ANIMAL CRUELTY

With the recent passage of its felony animal cruelty law, Arkansas has shed its dubious distinction as one of only five states—including Idaho, Mississippi, and the Dakotas—still treating heinous acts of animal abuse as mere misdemeanors.

Arkansas Attorney General Dustin McDaniel worked with sponsors Sen. Sue Madison and Rep. Pam Adcock and other supporters to achieve this victory. He recalls, "For years, advocates on both sides of this issue have clashed during each legislative session. I felt that we were far past due in needing [a first offense felony animal cruelty law.]"

The new law isn't perfect. After years of obstruction by farm interests, passage was achieved only by limiting coverage of the felony provision to dogs, cats and horses. However, the law makes the torture of a dog, cat or horse a felony and adds enhanced penalties if that torture is committed in front of a child. It also steps the charge up to a felony for a fourth misdemeanor offense, requires psychological counseling for abusers, and outlaws all animal fighting.

Kay Simpson Jordan, director of the Pulaski County Humane Society, spent 16 years trying to get Arkansas's law to take animal cruelty crimes seriously. She is "thrilled" by the impact the law is having, even before its effective date this July. Recent court cases have resulted in significant jail time, large fines and other penalties. According to Jordan, "Those who have wanted to take strong action know that the law is now on their side, and everyone is starting to pay more attention." 🐾



Taken for a Ride

by Tracy Basile

A snowstorm was in full force one wintry day last December when filmmaker Donny Moss decided to film the carriage horse drivers picking up tourists outside Manhattan's world-famous Plaza Hotel—a tradition more than 70 years old. As one of the horses came trotting across Central Park South, the driver noticed Moss filming him



Horse and driver at work in New York City during a blizzard in 2007.

and intentionally thwacked him on the head with his whip as the carriage passed. Such aggression highlights an issue that has been hotly debated for decades and punctuated by antagonism among carriage drivers, politicians, humane law enforcement officers and animal activists: Should the carriage horse industry be banned in New York City?

Every day, so long as the temperature is between 19 and 89 degrees, about two dozen horse-drawn carriages line up along the south end of Central Park awaiting their next fare. Most of the horses are Percherons and Belgian crosses, as well as a few smaller-boned Standardbreds. “Care for a ride today, sir?” drivers dressed in top hats ask passers-by. This is what the public sees of the city's carriage industry, but what both tourists and New Yorkers rarely witness is the

way many of these animals' lives are spent. The horses must endure:

- cramped stalls in old stables;
- heavy traffic;
- fumes from busses, cars and trucks;
- little interaction with other horses;
- the constant concussion of shod feet against hard pavement;
- the buildup of heat from asphalt roads on hot summer days; and
- no turnout for grazing, rolling in the dirt, or sunbathing.

Two years ago, a horse named Smoothie was spooked by a street performer's drumming in Central Park. The horse bolted and slammed into a tree, incurring such severe injuries that he had to be euthanized. The commotion caused a second carriage horse to run into oncoming traffic and collide with a car. Earlier that same year, two other carriage horses spooked; one collided with a taxi, while the other was hit by an SUV. Last January, another horse bolted and crashed into a car, where he was pinned underneath until finally euthanized.

New York City councilmember Tony Avella (D-Queens) wants it all to stop. In December 2007, he introduced a bill (Intro 658) that would ban the use of carriage horses throughout New York City. The bill has languished thus far, largely because what appears to be

a cottage industry actually wields considerable political clout. The New York Horse and Carriage Association, which represents the city's 68 carriages, 280 to 320 drivers, and 220 horses, has hired several lobbying firms—some of the most expensive in the city, according to Avella. A pro-industry bill (Intro 653-A) was also recently introduced, which would not only give carriage drivers a rate hike, but also eliminate current oversight by the American Society for the Prevention of Cruelty to Animals (ASPCA). Heavy support on both sides of the issue packed City Hall with hundreds of people testifying for and against both bills at a hearing in late January. The legislation, however, remains at a standstill.

Avella says that in the last 18 months there have been seven accidents in which three horses were killed and five people injured. “The romanticized idea of enjoying a carriage horse ride through the streets of Manhattan can no longer justify the inhumane treatment and risk of serious injury or death to these animals or to the public at large,” he says on his website www.tonyavellaformayor.com.

But what happens to the horses when they're not working? Lacking pasture for turnout or grazing, carriage horses are typically confined in their stalls. Senior researcher at Cornell University and co-founder of Veterinarians for Equine Welfare Nena Winand, D.V.M., Ph.D., explains that freedom of movement is important for the horses' circulation and digestion, adding that “it's mentally stressful if they can't be turned out. Horses need time to freely forage and have physical contact or they won't be happy.”

“It's not just a New York issue,” says filmmaker Donny Moss, pointing out that there are also urban horse-drawn carriages operating in Chicago, New



all photos: Donny Moss

In 2006, a carriage horse bolted, crashed into a car and was later euthanized.

Orleans, Charleston, Philadelphia and Boston. Moss feels confident, however, that success is in getting the word out. “If the public saw the truth behind the tradition,” he says, “they would be outraged.” 🐾

You Can Make a Difference

Please write letters in support of Intro 658—a bill to ban all horse-drawn carriages in New York City—to Mayor Michael Bloomberg and City Council Speaker Christine Quinn, both of whom oppose this bill. If you live in New York City, ask your councilmember to support the bill.

- 1) Mayor Michael Bloomberg, City Hall, New York, NY 10007
- 2) New York City Council Speaker Christine Quinn, 224 West 30th Street, Suite 1206, New York, NY 10001

You can also host a screening of *Blinders* (www.blindersthemovie.com), the award-winning documentary by Donny Moss, at your local library, horse barn or living room.



The Henry Ford collection and Ford Motor Company

Back to the future!

What if electric replicas of antique Model-T Fords, like the ones shown to the left, replaced every horse-drawn carriage in New York City? And what if every carriage driver was ensured a new job as a driver? That's what City Councilman Daniel Garodnick (D-Manhattan) hopes will happen when he brings the issue before the City Council this summer. With proper funding, the nostalgic cars would offer tourists a safe, humane and eco-friendly alternative to the horse and buggy. 🐾



iStockphoto

Oscar fish like this one, as well as other fish species used in studies, have proven that their memory and intelligence levels far exceed what researchers have generally believed them to be.

Fish Smarts: Studies Demonstrate their Abilities

RESEARCHERS FROM THE Technion Institute of Technology in Israel recently put the notion that fish only have a three-second memory span to the test.

Their recent study trained young fish to associate a certain sound with food over the course of a month, then released the animals into the wild. The researchers played the sound four to five months later to see if the fish would retain the association. Sure enough, the fish returned to the sound, suggesting that their memory span is at least that long.

This is not the first study disproving the myth that fish are unintelligent creatures. Other studies have indicated that they can learn to press a lever for food, navigate through mazes, recognize other fish, and even tell time. 🐾

Fish Fight Climate Change

DESPITE GRIM PREDICTIONS that carbon emissions will only rise in the coming decades and threaten a vast array of sea life, a recent study published in the journal *Science* early this year has proven that fish are unwittingly helping to lower elevated CO₂ levels in their ecosystems ... through their excrement.

Scientists have discovered that the ocean's calcium, continuously ingested by fish, is turned into calcium carbonate during a biological process separate from digestion, and is excreted as such. The compound's properties allow it to help balance pH levels disrupted by human-caused carbon emissions.

CARBON EMISSIONS THREATEN SURVIVAL OF CLOWNFISH

Rising acidity levels in seawater, resulting from the ocean absorbing increasing amounts of atmospheric carbon dioxide, are causing clownfish some serious problems.

According to the British online news site *The Guardian*, scientists have tested clownfish larvae and discovered that the heightened acidity levels have perhaps damaged the fishes' olfactory systems, which allow them to detect crucial habit-specific odors as they mature. Scientists say that fish raised in water with excess carbon dioxide—a direct result of burning fossil fuels—have become disoriented and unable to locate optimal habitats for survival.

"They can't distinguish between their own parents and other fish, and they become attracted to substances they previously avoided," Kjell Døving, a biology professor from the University of Oslo, told *The Guardian*. "It means the larvae will have less opportunity to find the right habitat, which could be devastating for their populations," he explained.

Carbon emissions and their subsequent seawater acidity levels are expected to continue to rise well into the next century. 🐾



iStockphoto

"This study really is the first glimpse of the huge impact fish have on our carbon cycle—and why we need them in the ocean," Villy Christensen, associate professor at the University of B.C. Fisheries Centre, told the Canwest News Service in January.

A team of scientists from the United States, Canada and the U.K. are estimating that 90 percent of all marine fish produce anywhere from three to 15 percent of this oceanic antacid of sorts. They added that this estimate is conservative, and may be as much as three times higher. 🐾

Sea Lion Seizures Caused by Toxic Exposure

RESEARCHERS AT THE National Oceanic and Atmospheric Administration uncovered a correlation earlier this year between the interaction of the toxins DDT and domoic acid and the occurrence of epileptic seizures in California sea lions at the Channel Islands National Marine Sanctuary.

As reported by the Environment News Service, the researchers were aware that exposure to domoic acid, especially during brain development, caused sea lions to seize; but the increased threats from exposure to DDT have just recently been understood.

DDT is a synthetic pesticide that was banned in the 1970s for poisoning humans, wildlife and the environment. Due to its previous widespread use, it lingers in high levels in some areas, including the California coast. Though the presence of DDT is declining, the neurotoxin domoic acid is on the rise from harmful algal blooms produced by pollution and a warming climate.

The recent seizure research draws attention to the growing risks associated with algal toxins. Scientists are also exploring how the toxins' interactions with other contaminants may harm marine mammals, as well as humans. 🐾



iStockphoto

A toxic cocktail: Sea lions have been experiencing seizures due to a dangerous mixture of the pesticide DDT and the naturally occurring toxin, domoic acid.

HELP FOR RIGHT WHALES ENTANGLED IN FISHING GEAR

Thanks to a new sedation delivery system, more endangered North Atlantic right whales may be saved from a slow, painful death as a result of entanglement in fishing gear, *Science Daily* reported in March.

Though some whales manage to free themselves, the struggle could last for months, seriously compromising the animal's daily functions. Ones who can't free themselves face being repeatedly approached by rescue boats, where the disentanglement process is often hampered by the stress and struggling of the 40,000-pound animals. Because the whales can become fearful and unapproachable, these rescue efforts succeed only about half the time. Disentanglement could take several days, and the longer the process, the less likely the whale is to survive.

Though sedation attempts had been tried on whales before, the techniques were problematic, causing the whale less pain in the freeing process, yet failing to mitigate stress or struggle. A new system, however, was recently built by Trevor Austin of Paxarms New Zealand, consisting of a 12-inch needle and syringe driven by compressed air. The system was tried out on an entangled 40-foot North Atlantic right whale in March, whose jaw and lip were being cut by heavy line. The drug was injected intramuscularly, and the animal ceased to fight his rescuers, allowing them to remove 90 percent of the gear that the whale had been dragging around since January. Since there are less than 400 North Atlantic right whales left in the wild—a direct result of commercial whaling—each rescue is of heightened importance.

"This use of sedatives in a large, free-ranging whale is novel and an exciting new tool in the large whale disentanglement toolbox," says Michael Moore, a veterinarian and research biologist at the Woods Hole Oceanographic Institute. "However," he warns, "it does not address the underlying problem of how to enable fixed-gear fisheries to pursue a profitable business without jeopardizing the survival of endangered species, such as the North Atlantic right whale." 🐾

INVIGORATE, *not* CAPITULATE: *The Prescription for Whaling Commission Success*



THE MEMBER-NATIONS of the International Whaling Commission (IWC) were poised to make a critical decision at the 2009 Intersessional Meeting held in Rome in March. They were faced with whether to continue pursuing a package of compromise rooted in groundless fears and flimsy hopes, or grasp a golden opportunity to turn a corner in cetacean protection by transforming the IWC into a 21st century whale conservation body.

Before them was a deal spearheaded by two chairs: an outside “expert” on conflict resolution, and a long-time meeting attendee and U.S. Commissioner, Dr. William Hogarth. After two years of deliberations, the deal presented to the body boils down to a lifting of the commercial whaling moratorium in exchange for a loose agreement to kill fewer whales for “scientific research” in the Antarctic.

The deal is being portrayed by Hogarth to his increasingly weary fellow commissioners as a way to get Japan to reduce the number of whales killed every year by its whalers, yet the plan ignores whales killed by Norway and Iceland. Even if Japan agrees to such a deal, which it has shown no indication of doing, this claim cannot be met, since the deal is non-binding. What’s more, it is impertinent to suggest that the IWC members, whose constituents overwhelmingly want whales to be conserved, should support overturning the commercial whaling moratorium as the solution to decades of illegal, cruel and corrupt behavior by the whaling nations. Any deal at this time would only demean the deaths of almost 17,000 whales killed for commercial gain since the moratorium came into force, as well as facilitate more future whaling.

Japan, Iceland and Norway deserve international condemnation for their ongoing whaling operations—specifically Japan, which has demonstrated:

- 1) continued disdain for the will of the majority of IWC member-nations;
- 2) blatant misuse of the Whaling Convention to engage in commercial whaling under the guise of scientific research;
- 3) propagation of the false idea of IWC dysfunction, including threats to leave the body if demands are not met;
- 4) manufacture of fraudulent evidence to blame whales for the collapse of marine fisheries;
- 5) use of food security concerns to mislead other nations into supporting whaling;
- 6) vote buying to accomplish self-serving objectives within the IWC;
- 7) conduct of lethal scientific research resulting in no credible findings; and
- 8) complete disregard for the significant environmental impacts of its whaling operations and failure to comply with relevant environmental laws.

All Commercial Whaling Must End Now

As U.K. Prime Minister Gordon Brown has emphasized in the government brochure, “Protecting Whales—A global responsibility,” “whale-watching is the only use of whales which is both humane and sustainable.” Any compromise is unnecessary and will reverse decades of whale conservation efforts and successes. The Animal Welfare Institute (AWI) has appealed to IWC member governments to refute the notion of a “whaling compromise” and prepared a detailed analysis of why commercial whaling today is without justification. Entitled “There’s No Room for Compromise – Commercial Whaling Must End,” the document was distributed at the Rome meeting and will be presented at the upcoming 61st annual IWC meeting in Madeira, Portugal.

The arguments against a resumption of commercial whaling are more forceful today than ever,

since whales are facing innumerable threats from other man-made sources. There is no real market for whale meat or blubber in Japan, the Japanese people do not support commercial whaling, and Japan’s whaling industry is economically unviable. Yet the Japanese Institute for Cetacean Research persists in spending almost \$5.5 million of taxpayer funds annually on its “scientific” whaling program with the meat destined for commercial sale.

The country’s long-standing desire to resume coastal whaling is groundless, unenforceable, and would require a lifting of the commercial whaling moratorium, which would undermine the protections afforded to whales under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Such whaling would threaten the survival of a critically endangered population of minke whales and set a precedent for other countries to seek similar allowances

for their coastal communities. Most importantly, whaling in any form is inherently cruel, causing significant and unacceptable suffering. There is no killing method currently available that satisfies the IWC’s definition of humane killing.

IWC member-nations that have historically opposed commercial whaling can collectively achieve a permanent and compassionate way forward. The solution is not capitulation, but invigoration of the IWC, in which the conservation, protection and recovery of cetaceans trumps the commercialization and persecution of these intelligent animals. Considering the near extinction of many of the great whale species due to commercial exploitation, the slow to non-existent rate of recovery for many species, and the increasing anthropogenic threats to whales and their habitats, permanently ending their slaughter for commercial purposes of any kind is of utmost urgency. 🐾

A Rotten Deal

Why Hogarth and commercial whaling apologists have it all wrong

- There is no evidence that any nation will leave the IWC if dialogue and progress are not improved.
- Meetings of the IWC Small Working Group that resulted in the deal were conducted behind closed doors. Civil society should be involved in discussions and decisions with such far-reaching effects.
- The deal rewards consistently bad behavior by the whaling nations and establishes a dangerous precedent for whale conservation and future negotiations in international forums.
- The deal lacks substantive detail. Consideration of key issues—including loopholes in the Whaling Convention that allow commercial whaling to continue, despite the moratorium—are deferred to a five-year “interim period,” which only postpones resolution of the inherent problems with the Convention, while allowing a whaling free-for-all.

- Norway and Iceland’s commercial whaling is not addressed in the deal, nor is the killing of species other than minke whales in the Western North Pacific.
- The deal undermines historical efforts to conserve whales, and its “solution” is inconsistent with the general will of the world’s citizens.
- The deal ignores international trade issues. Any lifting of the commercial whaling moratorium would have adverse implications to the protections afforded to whales under CITES.
- There is no evidence that a continuation of the status quo would “compromise the conservation status of whale populations” as the deal purports. More, not fewer, whales are likely to be killed in the long-term if the IWC approves the deal.
- The proposal to permit, but scale back, “scientific” whaling would contradict decades of opposition to the practice from both governments and the scientific community.
- Approving a special deal or package to benefit Japan establishes a mechanism for other IWC member-nations to pursue similar packages. 🐾



ANIMAL MIGRATIONS MAY BE MOVING TOWARD EXTINCTION

THERE CAN'T BE A MORE REMARKABLE SIGHT than a mass migration of animals, be it across the plains of Africa, on a cloud-covered skyline, or along the wave-ridden ocean coasts. Even as you read this article, animals are charging forward, moving from one region or climate zone to another in search of new feeding and breeding grounds.

Songbirds may be finishing up their yearly round-trip migration from North America to Brazil and back; great herds of grazing wildebeests, zebras and Thomson's gazelles may be creating spectacular hoof-beaten paths across the Serengeti-Mara ecosystem, or Pacific salmon could be nearing the end of their lifelong migration to return to their birthplace to spawn. Any one of these events would be breathtaking to witness—but you may want to hurry up. Some scientists are saying mass animal migrations are in trouble, and perhaps humans are to blame.

According to an essay by David S. Wilcove and Martin Wikelski from Princeton University's Department

of Ecology and Evolutionary Biology, published last year in the peer-reviewed journal *PLoS Biology*, "...the threats to migrants fall into four nonexclusive categories: habitat destruction, the creation of obstacles and barriers such as dams and fences, overexploitation, and climate change."

Climate change, or more precisely global warming, may be negatively impacting one of the lengthiest migrations executed by any mammal—that of the Gray whale. These animals travel 10,000 to 12,000 miles round-trip each year, leaving behind the bays and warm winter waters of Baja California, Mexico, to summer in the cooler seas of the Arctic. Gray whales are bottom feeders, mostly sustained by small crustaceans called amphipods, which cover the sea floor like a carpet; rolling over on his side, the whale sucks up the amphipod-rich bottom, filtering out the sediment and saltwater.

Over the last several decades, however, oceanographers studying the Arctic and monitoring climate change have seen a slow warming of the sea surface temperatures and alterations in currents that move

water about the Arctic. The Chukchi sea floor, having once been teeming with amphipods where Gray whales typically fed, is now vastly devoid of the small creatures, due to the effects of the warming waters.

Fewer Gray whales are being observed in their typical summer congregation areas and are moving further north in search of food. Scientists studying the mammals are seeing significant numbers traveling through the Bering straits into the Arctic Ocean and venturing further out to areas where their characteristic food source can still be found. Some whales have also been observed feeding on alternative prey, such as shrimp, pelagic red crabs and small fish.

Another effect the rising water temperature seems to be having on the migration of Gray whales is that some calves are being born further north. Whales born off the coasts of Alaska, Canada, Washington and Oregon, instead of the typical calving areas closer to Mexico, have to make a longer migration, which can jeopardize the likelihood of their survival.

Great animal migrations not only serve the purposes of those migrants, but also the predators that prey on those animals and the ecological benefits the migration itself creates. For instance, Wilcove and Wikelski write, "Several studies have shown that birds reduce insect populations in temperate forests, thus raising the question of whether ongoing declines in migratory birds pose a threat to the health of our forests and farmlands."

Unfortunately, birds are all too often subject to overexploitation, as is the case in Cyprus. The island lies on an essential section of the migratory path for birds flying from Europe to warmer climates, where illegal bird trapping has been routine throughout the years. In 2008 alone, over one million songbirds were trapped, killed, and likely served up as a "culinary delicacies," according to the ornithological conservation group BirdLife Cyprus. Approximately 90 percent of the birds following this migration route are protected species, some of which are even considered to be threatened.

Over the past several decades, breeding populations of eastern North American and European migratory

songbirds have declined. Although situations such as the one in Cyprus beg to be labeled as the culprits, there are probably several other factors for these vanishing journeys.

Wilcove and Wikelski theorize that the decline of these migratory birds is the result of "a function of the loss of breeding habitat, the loss of winter habitat, heightened mortality during migration (due to habitat destruction, pesticides, communication towers, and other factors), or some combination of the three." In their essay, they conclude that an answer cannot be known until full migratory cycles of individual birds can be tracked by satellite transmitters, which was an effort thought to be years away.

Last summer, however, researchers were able to retrieve data from seven geo-locator backpacks attached to two species of songbirds. The findings amazed the research scientist with the speed of the songbirds and the distance they covered on their migratory route. Fourteen wood thrushes and 20 purple martins were fitted with the tiny backpacks and sent forth from Pennsylvania a year prior; the birds would cover approximately 311 miles per day and traveled from Brazil to Pennsylvania in just shy of one month.

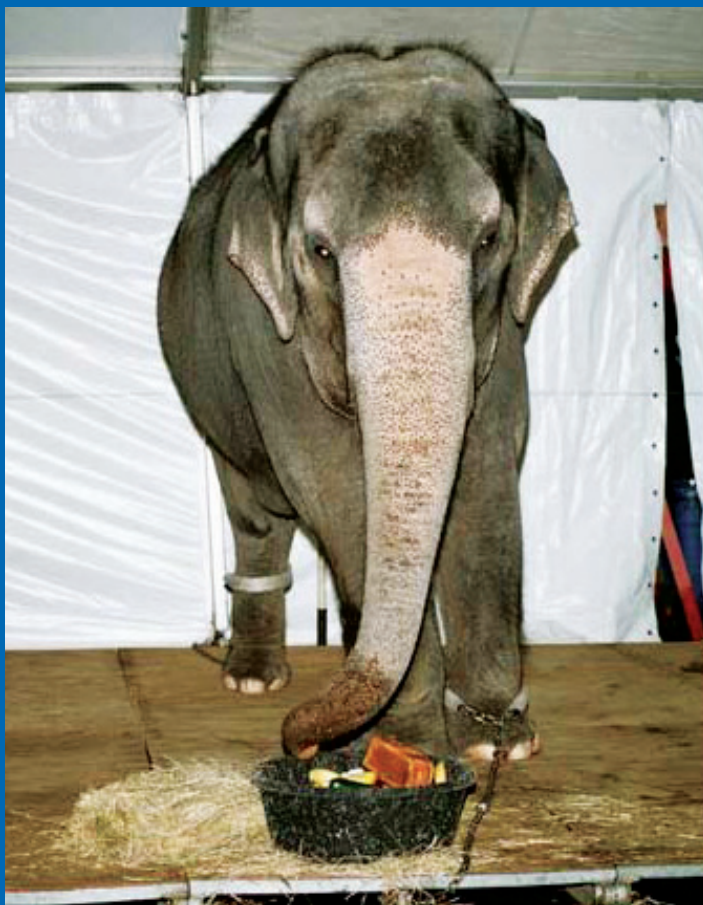
Mass animal migrations have constantly occurred over the millennia. The continuation of these phenomena is essential and will certainly be influenced by our actions. A collaborative effort to preserve their habitats, defend against overexploitation, find alternatives to closing off migration routes with barriers, and work toward solving the issues of climatic threats is needed to make their sustainability possible. With the unending fever of conservation, environmental and animal welfare groups, as well as the efforts of some individuals and governments, future generations may have a chance to enjoy the spectacle of great journeys. 🐾

ELEPHANT CRUELTY UNDER THE

BIG TOP

RINGLING BROS. AND BARNUM & BAILEY CIRCUS
FINALLY EXPOSED IN FEDERAL COURT TRIAL

BY TRACY SILVERMAN, ESQ.



"The elephants I grew to know and love at the circus were beaten daily with sharp bull hooks and chained like prisoners for hours on end."

-Tom Rider,
former Ringling Bros. employee

AFTER NEARLY NINE YEARS of intense legal wrangling, the Animal Welfare Institute's (AWI) landmark case against Ringling Bros. and Barnum & Bailey Circus' parent company, Feld Entertainment, Inc., for elephant mistreatment finally went to trial on February 4 in the U.S. District Court for the District of Columbia. AWI and its co-plaintiffs (the American Society for the Prevention of Cruelty to Animals, the Fund for Animals, the Animal Protection Institute, and former Ringling Bros. barn man Tom Rider) were represented by the public interest law firm of Meyer Glitzenstein & Crystal at the trial which lasted approximately six weeks.

Since the Asian elephants that Ringling Bros. uses to perform in its shows across the country have been listed by the U.S. government since 1976 as an endangered species, this case was brought under the Endangered Species Act (ESA), a federal law which protects all such animals. Section 9 of the ESA prohibits the "take" of any endangered species, which is explicitly defined to include "harm," "wound," and "harass."

As alleged in the lawsuit and argued at trial, Ringling Bros. harms, wounds and harasses its elephants in violation of the ESA in two specific ways: 1) by the routine practice of hitting the elephants with instruments including bull hooks (also known as ankuses) in order to force the elephants to do what they are told, as well as to correct, discipline and punish them if they fail to do so; 2) by the use of chains to routinely confine the elephants for prolonged periods of time on hard surfaces.

EVIDENCE OF RINGLING BROS. ROUTINE BULL HOOK USE

Over the years, Ringling Bros. has consistently denied that it routinely hits its elephants with instruments such as a bull hook, a two- to three-foot-long club with a sharp metal hook and pointer on the end. However, the evidence presented at trial clearly shows otherwise. In fact, when Feld Entertainment CEO Kenneth Feld took the stand, he testified that not only has he personally observed the Ringling Bros. handlers strike the elephants with bull hooks, but that all of the handlers engage in this practice.

Evidence that the elephants, whose skin is particularly sensitive in certain areas commonly targeted by handlers, are routinely struck with bull hooks was also elicited through the testimony of several former Ringling Bros. employees. Tom Rider, who worked for the circus for two and half years, feeding and cleaning up after the elephants, described the bull hook use he observed as "frequent" and "excessive." Recounting two specific instances to the court, Rider described one occasion when an elephant was repeatedly hit after refusing to lie down on command, resulting in more than 20 bull hook marks on her body, and another occasion when an elephant was beaten with a bull hook for more than 20 minutes because she was rattling the chain on her leg used to keep her restrained. Rider also testified that "wonder dust" was often applied to mask the elephants' cuts and wounds.

Other former Ringling Bros. employees corroborated Rider's testimony, including former animal care providers Archele Hundley and Robert Tom, Jr., who testified that the Ringling Bros. elephants endure daily bull hook abuse. They both described a severe beating when a handler rammed a bull hook into

an elephant's ear and hit her for more than 35 minutes because she would not lie down on command. Similarly, Margaret Tom, who worked for Ringling Bros. from 2005 through 2006, cited another bull hook beating that resulted when an elephant defecated on a dancer during a show.

Frank Hagan, who is now deceased, worked for Ringling Bros. on and off between 1993 and 2004. He testified in a videotaped deposition that the handlers use bull hooks aggressively and forcefully and that there were times when he saw handlers swing bull hooks like baseball bats at the elephants. Former Ringling Bros. animal caretaker Gerald Ramos, who left the circus after one week in 2006, also testified by way of deposition that he witnessed a baby elephant whacked on the head in such a manner.

Further testimony regarding bull hook cruelty inflicted on the Ringling Bros. elephants was provided by former San Jose, Calif., Police Sergeant Lanette Williams, who attended inspections of the circus when it came to California. Sergeant Williams stated that she observed elephants with lacerations and puncture wounds caused by bull hooks and described seeing an elephant "stabbed" with a bull hook by a Ringling Bros. handler when she attended an inspection in 2001.

Some of the most horrifying evidence was presented in the form of video footage, some of which was taken by witness Pat Cuvillo, a member of Citizens for Cruelty-Free Entertainment. Mr. Cuvillo, who has been monitoring the circus for about 20 years, took the stand and described how the elephants are hooked, hit, jabbed and threatened with bull hooks. He also testified to having seen Ringling Bros. handlers use brooms and pliers on the elephants.

The name of Ringling Bros. employee and long-time elephant handler, Troy



Bradley Stookey



Left: Karen on chains at a court-ordered inspection of the elephants.

Top: Elephants chained on a "picket line."

Bottom: Bull hook used at Feld Entertainment's "Center for Elephant Conservation (CEC)."

The elephants traveling with the Ringling Bros. Circus are kept in heavy metal chains on dark, cramped boxcars for hours or days at a time, month after month, year after year. Oftentimes, they must stand in their own urine and feces.



Metzler, often came up at trial before he even took the stand. Nicknamed “Captain Hook” for his frequent and exceptionally cruel use of bull hooks, Metzler was filmed striking a young elephant under the chin and on the trunk, footage that was entered into evidence. An internal Feld Entertainment e-mail stating that Metzler was observed hitting an elephant three to five times before using an electric prod on her within public view was also entered into evidence.

EVIDENCE OF RINGLING BROS. ROUTINE CHAINING

For years, Feld Entertainment has vehemently denied allegations put forth in this case that its elephants are chained for the vast majority of their lives. In fact, Feld Entertainment maintains on its website that “Ringling Bros. elephants spend most of their day moving about freely in their enclosures and in the arena ...” and that “... most of their waking hours are spent at play, socializing, exercising and learning new routines.” However, an overwhelming amount of evidence was presented at trial establishing that these highly social and intellectually curious animals, who are biologically wired to be on the move, are in fact routinely chained for extended periods of time.

In addition to the testimony of former Ringling Bros. employees that the elephants are chained by two legs for the majority of the day, every day, and sometimes for days at a time when traveling on trains, Gary Jacobson, general manager for Ringling Bros.’ euphemistically named Center for Elephant Conservation (CEC) admitted that the elephants maintained at that facility spend 16 consecutive hours chained by two legs on concrete flooring every day, while other elephants are chained daily for 22 consecutive hours on concrete flooring.

Such testimony flies in the face of Feld Entertainment’s public relations materials, which boast that the elephants kept at the so-called CEC “can roam and socialize to their heart’s content.”

Video footage of the elephants chained in barns, on trains, and outdoors was also presented at trial. While outside, the animals are at times lined up and chained to a central stake and placed on “picket lines” reminiscent of chain gangs. Videotaped footage subpoenaed from Washington, D.C.’s MCI Center (now renamed the Verizon Center) showed the elephants chained for prolonged periods of time on a concrete floor.

Corroborating the testimonial and visual evidence of Ringling Bros.’ routine chaining practices were Feld Entertainment’s own transportation orders showing how much time the elephants spend on the trains that transport them from venue to venue across the country for about 40 weeks each year. These records reveal that the elephants are chained on unyielding train surfaces for an average of more than 26 consecutive hours at a time, and that they are often chained on the trains this way for stretches lasting 60 to 70 hours—and sometimes lasting as long as 90 to 100 consecutive hours.

EVIDENCE THAT RINGLING BROS. ROUTINE PRACTICES HARM, WOUND AND HARASS THE ELEPHANTS

As lead counsel, Katherine Meyer indicated in her opening statement, “Feld Entertainment places a high premium on the illusion for the public that the endangered elephants it uses in its circus are happy, healthy and thriving.” This illusion, however, was broken down over the course of the six-week-long trial as evidence of the physical and psychological harm caused to the elephants unfolded day after day.

Despite statements made on the stand by Feld Entertainment’s witnesses that bull hooks used at Ringling Bros. Circus do not hurt the elephants, an internal letter written by a Ringling Bros. animal behaviorist revealed that an elephant was “... dripping blood all over the arena floor during the show from being hooked,” while another internal Feld Entertainment document authored by a Ringling Bros. veterinary technician indicated that “[a]fter this morning’s baths, at least four of the elephants came in with multiple abrasions and lacerations from the hooks.” Additionally, Ringling Bros.’ handler Robert “Sonny” Ridley, who has been with the circus for almost 40 years, stated in his deposition that he sees puncture wounds caused by bull hooks at least three to four times a month, and stated in a sworn affidavit to the USDA that he also sees hook boils (infected puncture wounds caused by bull hooks) on the elephants an average of twice a week.

Several of the world’s leading experts on elephants testified as to the psychological harm caused to the elephants as a result of Ringling Bros.’ routine practices. With more than 30 years of experience studying elephants in the wild, Dr. Joyce Poole explained that the bull hook injures and harasses the elephants emotionally by making them so fearful of exhibiting their natural behaviors (such as exploring their surroundings and socializing with other elephants) that they cease to act like normal elephants. She and others, including Ros Clubb, Ph.D., of Oxford University, a leading expert on stereotypic behavior in elephants, also testified that the repetitive swaying, bobbing and weaving exhibited by



the Ringling Bros. elephants can be attributed to the prolonged periods of time they spend confined on chains and is evidence that they are experiencing stress and poor welfare.

The testimony of Philip Ensley, D.V.M., on the health of the elephants was particularly compelling. Dr. Ensley, a board-certified veterinarian who worked for the San Diego Wildlife Park and Zoo for 29 years, testified against Feld Entertainment based on his attendance at two court-ordered elephant inspections and the 1,300 hours it took him to review the medical records of all the Ringling Bros. elephants. Though Feld Entertainment tried to withhold this critical documentation from the court, the corporation finally turned it over after two separate court orders. Dr. Ensley testified that while some of the elephants have more serious health histories than others, all of the elephants appear to suffer from similar conditions, including lameness, stiffness, arthritis, osteoarthritis (degenerative foot disease), pressure sores, abrasions, lacerations, lesions, and overly worn feet, as well as nail bed cracks and abscesses. He indicated that these conditions appear not just in the older elephants, but also

uncharacteristically in the younger ones, and that such conditions are precipitated by their routine handling by Ringling Bros. staff.

The defense attempted to counter Dr. Ensley’s testimony with that of Ringling Bros. Chair of Veterinary Care and Director of Research and Conservation, Dennis Schmitt, D.V.M. Dr. Schmitt testified that the Ringling Bros. elephants are “bright, alert, healthy [and] active.” However, he later admitted that some of these same elephants suffer from tuberculosis, bull hook marks, sprains, strains, nail cracks, nail bed abscesses, stiffness, arthritis and weight loss.

While the evidentiary portion of the trial has concluded, the parties are now required to file some additional briefs with the court. The Honorable Emmet Sullivan, the judge presiding over the case, may also ask the parties to come back to court for further argument once final briefs have been submitted. Whether or not the endangered Asian elephants in the Ringling Bros. Circus will be afforded the protections outlined in the ESA is in the hands of Judge Sullivan, but regardless of the outcome—or the potentially lengthy appeals process—one thing is for certain: the cruelties under the Big Top have finally been exposed for the whole world to see. 🐾

Beating the Bushes for Carnivore Scat

BY AIMEE HURT

There I stood upon a steep hillside in the lush and wild heart of Idaho, using all fours to steady myself, though not nearly as deftly as my canine co-worker, Wicket. I'd grab onto the brush to keep it from scratching my face and use it to haul myself upward, inching my way up the slope. I'd take five or six steps, slowly, as though I were wading through pudding, and occasionally call out to Maggie, my human colleague who I couldn't see, though only 20 feet away. Wicket was wearing a little bell that kept up a constant jangle as she threaded through the brush in search of her target. For the next two hours we trudged onward in this way to the corner point of our survey, just 10 football fields away.

Wicket and I work for Working Dogs for Conservation (WDC), which trains dogs to detect wildlife samples—in this case the feces (or “scat”) of fishers and bears. This non-invasive alternative for wildlife researchers can convert these piles of scat into mountains of data about animal presence, habitat use, diet selection, sex, relatedness and even individual identity, without the use of baiting, luring, trapping, handling or radio-collaring the animals.

Fishers are native North American forest predators of the Mustelid family, which also includes martens and wolverines. These weasel-like animals weigh about 10 pounds and are able to hunt porcupines by travelling up and down trees as easily as on the ground. Their current range is much smaller than it historically once was. In fact, fishers were thought to be extinct throughout the Rocky Mountains in the late 1950s and were reintroduced to the area. However, our collaborator, Michael Schwartz, Ph.D., of the U.S. Forest Service Rocky Mountain Research Station Wildlife Genetics Lab discovered through genetic analysis that not all members of the native population were in fact gone; some persisted with their unique genetic code revealing their secret. Dr. Schwartz asked WDC to find scat samples so that he could learn which areas contained animals from the native population, and what habitats and food items they prefer.

With a couple hundred kilometers behind us and dozens of scats already in our coffers, support from the Animal Welfare Institute's Christine Stevens Wildlife Award will help us expand our search this year to the



Hurt (left) and Wicket (right) track down scat samples in the Rocky Mountains.

Great Burn area—250,000 roadless acres of some of the most remote, ecologically pristine forest in the Northern Rockies—where we will train the dogs to detect the scents of wolf, lynx and wolverine scat. These are all species of conservation concern, and are often trapped and handled in traditional monitoring methods. Although the Great Burn may provide vital habitat for these species, they are not easily observed, and their status in this area is relatively unknown. With Wicket's keen nose, we will be able to gather information about these animals with their only knowledge of us being the jingle-jangle of her bell. 🐾

Aimee Hurt is co-founder and operations director of Working Dogs for Conservation (www.workingdogsforconservation.org), and has been training and handling dogs for 11 years.

The Nose Knows: A New Method of Tracking Individual Otters

BY RANDALL W. DAVIS

Recognition of individual animals enables detailed studies of movement patterns, foraging, life histories and survival. It is also important for understanding the ecology and behavior of species. Artificial marks, such as tattoos, dyes, brands, colored or numbered tags, and radio and satellite telemeters have been the primary ways of identifying individual animals in research. However, these systems require that the animal be captured, which may cause stress or injury to the animal and/or the researcher and may modify the animal's behavior. Increasingly, researchers are using natural color patterns, scars and other features to identify animals in a wide range of taxa for which capture and marking is not desirable or logistically feasible.

Sea otters have naturally occurring nose scars from copulation and fighting, which can be used to identify individuals based on the size, shape and location of the scars. However, matching the scars in digital images of the individuals can require many hours of effort, depending on the size of the catalog. This study, funded by a Christine Stevens Wildlife Award from the Animal Welfare Institute, tested the performance of a new program, Sea Otter Nose Matching Program (SONMaP). SONMaP, which was developed about three years ago by Gilbert Hillman, Ph.D., used blotch-pattern recognition algorithms to match the shape and location of lightly colored scar tissue in relation to normal black pigmentation of sea otter noses.

Our study of the device was conducted in Simpson Bay, located in northeastern Prince William Sound, Alaska. Digital images of sea otters were taken from a six-meter-long skiff with a Nikon D1H digital camera with an 80 to 400 millimeter image-stabilized telephoto lens. When an otter was sighted, the skiff driver approached the animal slowly while the photographer attempted to obtain a frontal image of the animal's face, usually at a distance of about 30 meters.

A catalog was then created for the 1,638 images of otters. One to four of the best images (based on proximity, sharpness and head orientation) of each individual were



It may be hard to tell which one is cuter, but telling them apart doesn't have to be.

cropped to isolate the face from the rest of the image. Next, two researchers independently matched sea otters in these images by visually comparing them with all other images in the catalog, a process that took many hours. Images of the 186 previously matched otters were to test the performance of SONMaP. The nose in each image was first isolated using Adobe Photoshop 7.0 and ranked based on quality (Q1 to Q4) and distinctiveness (D1 to D5) of the scars. After running the images through SONMaP, they were classified as “Best”, “Average” or “Worst,” based on whether the correct match was within the first 10 percent, 11 to 50 percent, or 51 to 100 percent of images in the catalog, respectively. In 49 percent of the previously visually-matched images, the program accurately selected the correct image in the first 10 percent of the catalog, which compares favorably with other computer-assisted photo identification studies of marine mammals. We concluded that SONMaP performed well enough to provide significant assistance in the process of photo-identification by reducing the time needed to match sea otters in a catalog by 67 percent, and can be used in the field for identification of individual animals under study. 🐾

Randall Davis is a professor of marine biology and wildlife and fisheries science at Texas A&M University. He has studied the ecology, behavior and physiology of marine mammals and birds for 30 years, and served as the director of the Sea Otter Rescue and Rehabilitation Program in Alaska during the Exxon Valdez oil spill.

DEATH OF LAST U.S. JAGUAR

The Phoenix Zoo had the unfortunate task of euthanizing the last living wild jaguar in the United States in March. Dubbed “Macho B” by researchers who had photographed him sporadically for more than a decade, the 16-year-old animal was accidentally captured by the Arizona Game and Fish Department in February after being caught in a snare set to catch cougars and black bears for research.

The jaguar was sedated and fitted with a radio collar for tracking, and then released. In the following weeks, researchers began to notice Macho B’s abnormal weight loss and limited movement, which led to his intentional recapture on March 2. The decision to euthanize came when they discovered he was suffering from severe kidney failure.

Dr. Dean Rice, the executive vice president of the Phoenix Zoo who assisted in Macho

B’s necropsy, told the *Arizona Daily Star* that the jaguar’s kidneys had likely started deteriorating prior to the capture, but that the stress of being trapped and tranquilized exacerbated the problem, which led to the animal’s death. State officials say, however, that kidney failure is common in older cats, and that Macho B’s lifespan was longer than any other known wild jaguar.

Jaguars, who once used to inhabit much of the southern U.S., were added to the federal Endangered Species List in 1997. Macho B was the only known surviving individual in the wild.

The Center for Biological Diversity in Tuscon, Ariz., however, won a federal court case to help preserve critical habitat for jaguars and implement a species recovery plan. By next year, the U.S. government will issue a new decision on jaguar protection, which may include the species’ reintroduction into its native lands. 🐾



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The rediscovery of the solenodon, which was thought for years to be extinct, now raises many new questions about its genetics, behavior and how to preserve what’s left of the species.

“Living Fossil” Rediscovered

FEARED TO BE EXTINCT in the Caribbean—the only region of the globe it once called home—the solenodon was recently caught on film and eventually captured by conservationists. Researchers from the Durrell Wildlife Conservation Trust and the Ornithological Society of Hispaniola took measurements and DNA from the creature before releasing him back into his habitat, BBC News reported early this year.

Dubbed by researcher Dr. Sam Turvey of the Zoological Society of London as “one of the most evolutionarily distinct mammals in the world,” the solenodon is the last living venomous mammal, possessing specialized teeth to inject poison into prey.

Scientists believe the species diverged from modern mammals around 76 million years ago, and therefore consider it a “living fossil” and window to the past. Little else is known about the solenodon’s genetics, ecology, behavior or population, making conservation efforts that much harder.

Nevertheless, research institutions and wildlife groups working in the region are collaborating to preserve the species and its habitat, which are threatened by deforestation, hunting and non-native species. Researchers stress that this effort will also benefit other local endangered species. 🐾

Chimp Plans for Tomorrow, Leaves No Stone Unturned

THOUGH THE PROVERB WARNS that “people who live in glass houses shouldn’t throw stones,” it makes no mention of primates in zoo exhibits. Santino, a 30-year-old chimp in Sweden’s Furuviik zoo, has been doing just that for 14 years now, angrily launching rocks and discs of concrete into crowds of tourists, *New Scientist* reported on their website in March.

What’s more fascinating than his aggressive stone throwing is the calm and calculated way in which he collects them beforehand. Some scientists say that, just like humans, this behavior proves chimps are capable of planned action, unmotivated by their current emotional state.

“These observations convincingly show that our fellow apes do consider the future in a very complex way,” Mathias Osvath of Sweden’s University of Lund told *New Scientist*. “It implies they have a highly developed consciousness, including life-like mental simulations of days to come. I would guess that they plan much of their everyday behavior.”

Mary Lee Jensvold, associate director of the Chimpanzee & Human Communication Institute and board member of Animal Welfare Institute agrees: “Language, tool use, theory of mind, and now planning—all abilities that were imagined to be unique to humans. Ethologists are discovering that humans are just not that different.” 🐾

Human Appetites Driving Frogs to Extinction

AN INTERNATIONAL TEAM of scientists have added human consumption to the long list of things already threatening global frog populations, the BBC reported in January. A new study, published in the journal *Conservation Biology*, found that upwards of one billion frogs may be captured from the wild for this purpose every year, with France and the United States being the two largest importers.

Commonly thought of as only a French delicacy, frogs’ legs are actually more broadly consumed, appearing in some European school cafeterias and being popular in Asia. Researchers have found that the trade has increased over the past 20 years.

Corey Bradshaw, a senior scientist with the South Australian Research and Development Institute and one of the study’s authors, named Indonesia the biggest exporter of frogs. Unfortunately, data necessary for the conservation of frogs in Indonesia is lacking. It is almost impossible to know which species are being traded and whether they are endangered.

Frogs and other amphibians are at additional risk of extinction from climate change, habitat loss, pollution, and a highly infectious and uncontrollable disease called chytridiomycosis, which has been known to wipe out entire populations. 🐾

“EXTINCT” QUAIL SPOTTED TOO LATE

One ornithologist’s treasure is another man’s dinner. As the American Free Press (AFP) reports, while filming a documentary on traditional bird trapping methods in the Caraballo Mountains of the Philippines, a TV crew unwittingly got footage of Worcester’s buttonquail being captured by natives earlier this year.

Sources say neither the film crew nor the trappers realized that this was the same quail species believed to be extinct for years. The camera therefore followed the trapped bird to a local poultry market, where it was purchased for the equivalent of two dimes and ultimately cooked and eaten.

It wasn’t until Desmond Allen, an eagle-eyed member of the World Bird Club of the Philippines, saw the ironically titled “Bye-Bye Birdie” documentary, and identified the quail.

The club’s president, Mike Lu, told AFP that while he and his organization are “ecstatic that this rarely seen species was photographed by accident,” he is saddened that “the locals do not value the biodiversity around them.” Lu added that much more should be done to raise local awareness about threatened animals in order to save them. 🐾



Arnel B. Telesforo



Hermits: The Unfortunate Victims of Society

It was an unusual discovery.

As the mercury soared to triple digits last October in Yuma, Ariz., a hermit crab later named “Hermie” was found near a drip irrigation line in a state park—a victim of the crustacean pet trade. More than likely, he was purchased at a local pet store and then dumped near a canal behind the park’s headquarters before being rescued.

A few weeks earlier and some 2,500 miles away in Ocean City, N.J., a young boy was seen with a single hermit crab purchased as a vacation souvenir from a local beach shop. This crab was a victim, not just because his shell was tastelessly painted to resemble a soccer ball, but because he was one of thousands of other hermit crabs bought as mementos. The thoughtless acquisition of these creatures isn’t confined to beach retail: In March at the annual conference of the National Science Teacher’s Association, Carolina Biological Supply gave away hermit crabs as a promotional gimmick.

What is the fate of these crabs? Odds are they’re already dead, or otherwise forgotten and dying. Despite this likelihood, the trade in hermit crabs remains a booming

business as people seek out “exotic” pets who won’t pee in the house or vomit on the carpet.

There are 500 to 600 species of hermit crabs, most of whom are native to tropical climates like the Caribbean, South America, Africa and Australia. Some hermit crabs can also be found living along the Atlantic coast of the U.S. Though most hermit crabs are small, some of the more exotic species can be as wide as a foot or more, the largest being the coconut crab, who has a leg span of more than three feet.

Most of the hermit crabs sold as pets in the U.S. are purple pincher crabs or Ecuadorian hermit crabs. Purple pinchers are native to the Caribbean, South America and the Florida Keys, while the Ecuadorian crab comes from the coasts of Ecuador and Chile. Since hermit crabs don’t breed in captivity, every crab in the pet trade has been taken from the wild. They are then packaged and transported potentially thousands of miles away for resale to live, often quite briefly, behind the plastic walls of an aquarium tank.

There are no reliable statistics on how many hermit crabs die during transport, get sold, or what their fate

may be once sold. Shell Shanty, Inc., a hermit crab wholesaler headquartered in New Jersey, reported in a 2000 *New York Times* article that it sells a million crabs each year. Though such companies are apparently licensed by the government, the trade is largely unregulated.

While some crabs may end up in the care of a small contingent of dedicated hermit crab aficionados able to meet the crabs’ physical and behavioral needs, the majority are purchased as novelties and die quickly of stress, ignorance or neglect. Hermit crab enthusiasts raise their crabs in “crabariums” and “crabitats,” but the fate of millions of others is sealed upon capture in the wild, when they are later shipped around the globe and sold as “low maintenance,” “easy care,” “unusual,” and “very entertaining” pets.

But as Tammy Snook, Hermie’s temporary caregiver, quickly learned, “These are not animals who can simply be thrown into an aquarium tank and fed, as they have unique physical and behavioral needs that must be met to sustain their health.”

Indeed, according to a variety of Internet sources, which do not provide consistent advice,

hermit crabs must be provided with a temperature and humidity controlled environment. If they get too hot or dry, they’ll die. They also need an appropriate type and depth of substrate to facilitate the molting process. A variety of empty shells are essential for crabs to find new shells to move to as they grow. A diverse habitat containing hollow logs, caves, driftwood and other materials for exploration and cover is also important, as is the need for crab companionship.

Hermit crabs need access to fresh and, depending on the species, salt water. Chlorinated tap water can kill them, and the iodine in table salt, if used to make salt water, is harmful to crabs. Furthermore, if the water is too deep, the crabs could drown. Crabs also need adequate calcium in their diets. As omnivores, they eat most foods, but are sensitive to pesticides, and certain food preservatives can be dangerous.

Old food and crab droppings must be cleaned up, and fresh food and water provided daily. Their tank or “crabitat” must be completely cleaned without using soap or store-bought chemical-based cleaners

that can harm them, and substrate should be replaced at least once a month. Since crabs are susceptible to fungal and bacterial infections, they may need to be regularly bathed in fresh and salt water or administered antibiotic treatments.

Not surprisingly, given such care requirements and the fleeting novelty of a crustacean as a pet, most hermit crabs usually do not live long in captivity. This, along with their relatively cheap price, may explain why some refer to them as “disposable” or “throwaway” pets.

As for Hermie, though he will never be returned to the wild, he’s on his way to a new home in Southern California. He will live out his life with other rescued crabs under the care of an experienced hermit crab enthusiast. 🐾

You Can Make a Difference

1. Don’t purchase a hermit crab (or any other living animal) as a vacation souvenir. Explain to your children that hermit crabs are better off in the wild than in captivity.
2. Don’t purchase any exotic pets. They require specialized care and may have been taken from the wild and transported thousands of miles, often in miserable conditions.



Top: Hermie was dumped in a state park and left to fend for himself far from native shores. He now lives in the caring hands of a hermit crab enthusiast. **Bottom:** Hermit crabs, though marketed as low maintenance, actually have complex needs. Because they don’t breed in captivity, all pet hermits are taken from the wild.

TICKLED PINK

SYLVIE CLOUTIER, PH.D., AND RUTH C. NEWBERRY, PH.D., PRESENT
PLAYFUL HANDLING AS SOCIAL ENRICHMENT FOR LABORATORY RATS

WHEN ANIMALS ARE USED IN RESEARCH, there is seldom, if ever, a focus on affectionate or playful handling. However, based on what has already been proven about rats and their response to positive caregiver contact, we at the Washington State University Center for the Study for Animal Well-Being set out to explore management and husbandry factors in the laboratory that improve the welfare of the rats being studied and the outcome of the research.

Our team investigated how the provision of playful social contact between rats and humans that mimicks playful social contact between rats minimizes the adverse effects of individual housing in response to handling, standard procedures and behavioral tests used in biomedical research.

Rats are highly social mammals. For this reason, communal housing is recommended for rats used in biomedical research. However, they sometimes have to be housed individually, due to research constraints or medical issues. Individual housing deprives rats of social contact, which can increase anxiety, fearfulness and aggression. There is therefore a need to find social stimuli that could improve their welfare. Since humans are integral members of the social environment of laboratory animals, increased

positive interaction with the animal care staff has been recommended by the National Research Council as social enrichment for individually-housed animals. However, the types of social interaction that would be most effective are not specified and, more importantly, not well researched.

Human contact with rats is likely to be most effective when it mimics the rat's own behavior. If so, tickling rats in a manner that simulates the bodily contact that occurs during rat social play may be a useful and practical method for enrichment. Playful tickling can be done by making rapid finger movements across the nape (where rats usually solicit play), followed by vigorous tickling of the belly. When rats are tickled, they emit ultrasonic vocalizations (USVs) at a specific frequency (50-kHz) which can be detected with an ultrasonic microphone (i.e. a bat detector) and sound recording software. These 50-kHz USVs are the same as those emitted during social play, suggesting that when playing and being tickled, these rat chirps, like human laughter, reflect a positive affective state.

If tickling is an enjoyable experience for rats, tickled rats should greet their caretakers with enthusiastic USVs and playful solicitations, rather than withdrawing in fear and struggling to escape when handled. Tickling by caretakers could be especially useful in a research setting if tickled rats become less fearful and more receptive toward humans in general, enabling them to adapt faster to new people and situations. It would also be useful if it provides an adequate substitute for social housing for individually-housed rats.

Socially-housed rats are kept in groups of two or more, depending on space availability, cost constraints and study requirements. Social housing for rats therefore means housing in pairs. Pair-housed rats, however, have been reported to show intermediate responses between individually-housed rats and rats housed in groups of three or more in some behavior tests. Furthermore, when given the choice, rats spend more time in groups of three or more than in pairs or alone. Therefore, pairing might not be a suitable "social housing" standard against which to compare the responses of individually-housed rats. A better

understanding of the effects of housing rats in pairs versus trios would be useful. In fact, if individually-housed rats exhibit a desire to be tickled by people, and rats housed in trios turn out to be rather indifferent to human tickles, it would be interesting to find out whether pair-housed rats respond more like individually- or triple-housed rats. Even if tickling has no immediate benefit for rats housed in pairs and trios, it would be useful to know if tickling these rats when they are young would have any benefit in the future if they later had to spend some time in individual housing.

We conducted an experiment to investigate these possibilities and compared the responses of 72 male Sprague-Dawley rats that, for the first three weeks after weaning, were either tickled daily for two minutes by their caretakers or kept with only the minimal handling involved in transferring them into a clean cage once a week (the control condition). Rats in each of these situations were housed in groups of one, two or three. In the fourth week, we measured the rats' attraction to unfamiliar humans in a novel environment. All of the rats were then placed in individual housing with minimal handling for the next three weeks and tested again in the eighth week. The effectiveness of tickling as social enrichment was evaluated by measuring the emission of ultrasonic vocalizations. Ease of handling was assessed during weekly cage cleaning using a handling score (0 = no struggling to 4 = energetic struggling).

We found that tickled rats emitted more 50-kHz calls in anticipation of being handled than rats used to only minimal handling (Figure 1).

Further, they also struggled less than the control rats when handled during cage cleaning, a difference that was statistically significant over the eight weeks of the experiment.

These effects of tickling applied to all rats, whether housed individually, in pairs or in trios. The effects also persisted after discontinuation of the tickling program, when all rats were moved into individual housing. Although tickling increased USVs and reduced struggling when handled by a familiar caretaker, it did not result in increased attraction towards the hand of an unfamiliar person.

Our results indicate that daily tickling for two minutes over a three-week period improved the relationship between rats and their caretakers. Tickling was equally beneficial for rats regardless of whether they were housed individually or in groups of two or three rats, and the benefits persisted throughout a four-week break from

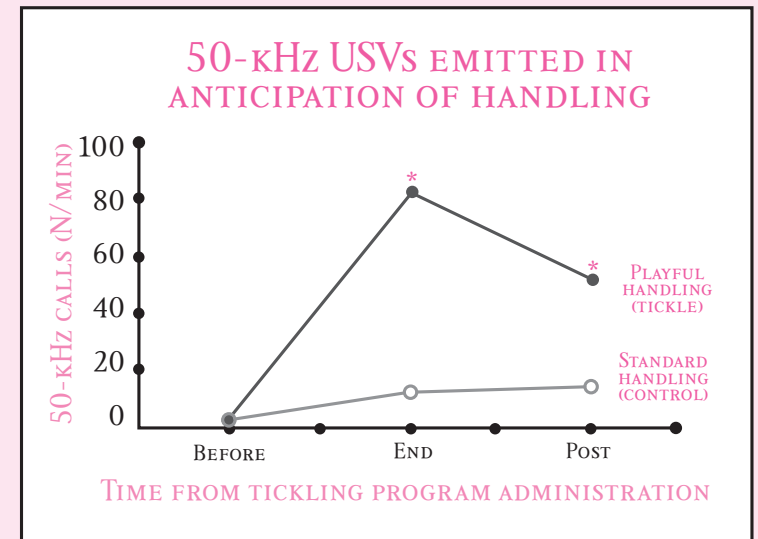


Figure 1. Average number of 50-kHz ultrasonic vocalizations (USVs) emitted by tickled versus control rats. USVs were recorded before any tickling was done (Before), after three weeks of daily tickling (End), and four weeks after discontinuation of tickling (Post). An asterisk (*) above the points indicates a statistically significant difference between tickled and control rats for this time.

tickling. Although tickling did not increase attraction to unfamiliar people, it was our subjective impression that tickled rats were more comfortable in the presence of familiar people who had never tickled them than rats that had not been through the tickling program. We conclude that daily tickling is a good source of social enrichment for individually-housed rats, and that this type of playful interaction with people is also beneficial for socially-housed rats. 🐾

ABOUT THE AUTHORS

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This research project was made possible through a Refinement Award from the Animal Welfare Institute.



Henry Moore

A study shows that when researchers interact playfully, even briefly, with the rats in their care, the rats' quality of life is made substantially better.



Diane Halverson

A recent study reveals that antibiotic-resistant MRSA is not only common in the factory farms that supply Americans with the vast majority of their pork products, but that the pathogen can and has infected humans, as well.

Merciless MRSA Strain Alive and Kicking

DISTURBING EVIDENCE of a potential epidemic has been published in a study by University of Iowa College of Public Health researcher Tara Smith et al this January. The study was the first in the country to document animal-to-human transmission of methicillin-resistant *Staphylococcus aureus* (MRSA), an antibiotic-resistant form of a common bacterium that causes deadly infections, though such research has previously been conducted in Canada, Denmark and the Netherlands.

After testing a sample of 299 pigs and 20 workers from two factory farms in Iowa and Illinois, the study concluded “that colonization of swine by MRSA was very common ... suggesting that agricultural animals could become an important reservoir for this bacterium.” MRSA prevalence was reported as high as 49 percent in swine and 45 percent of the same strain in the workers.

The researchers continue, “The rate of MRSA colonization in both humans and swine on the farms in one of the corporate systems in our study was high, suggesting that once MRSA is introduced, it may spread broadly among both swine and their caretakers.”

Iowa is responsible for one quarter of the total pig population raised for consumption in the U.S. Its factory farms inundate their livestock with daily doses of “preventative”

AWI ESTABLISHES ABANDONED HORSE REWARD FUND

Just as some people fail to recognize their responsibility to their dogs and cats, so too is the case with horses, many of whom are abandoned by their owners each year. Though tough economic times can increase the financial burden on animal owners, it is important for them to realize that abandoning animals is illegal, and that there are humane options available, such as relinquishing horses to reputable sanctuaries.

In addition to working with sanctuaries, the Animal Welfare Institute (AWI) has established the Abandoned Horse Reward Fund, which offers rewards of up to \$1,000 to individuals who provide information leading to the arrest and conviction of anyone who violates state law and abandons a horse.

Individuals with evidence of a horse abandonment situation should first contact their local police department, provide as many details as possible, and let the department know about the Abandoned Horse Reward Fund. In such cases, eligibility for rewards and specific reward amounts will be determined by AWI. Complete details are posted at www.awionline.org/legal_affairs/reward/reward_terms_conditions.htm. 🐾



istockphoto

antibiotics. Paradoxically, this practice has been proven to foster ideal conditions for the evolution of antibiotic-resistant pathogens like MRSA, which already kills upward of 18,000 Americans annually. The impact of industrial agriculture on the human and zoological infection rate of this superbug, however, quite frighteningly has yet to be seen. 🐾

*For more on MRSA, see www.awionline.org.

The Inner World of Farm Animals

Their Amazing Social, Emotional, and Intellectual Capabilities

By Amy Hatkoff
Stewart, Tabori & Chang
ISBN-10: 1584797487
176 pages; \$19.95

AMY HATKOFF makes clear in her new book, *The Inner World of Farm Animals: Their Amazing Social, Emotional, and Intellectual Capabilities*, that these animals feel pleasure and sadness, excitement and resentment, depression, fear and pain.

The book is a refreshing combination of science and storytelling. It has gorgeous photographs, poignant stories of rescued farm animals, and simplified results of profound research revealing animals’ intellect and emotion.

Chickens, for instance, as well as other farm animals, pass cultural knowledge along to their offspring by teaching about food and safety—something long considered unique to human intelligence. Sheep have the same specialized part of the brain as humans to help them recognize and remember faces. Geese exhibit the same physical signs of grief as humans; and cows are helpful to others, often intentionally acting to benefit the whole group, with no immediate benefit to themselves.

By offering a glimpse into their inner world, Hatkoff challenges the reader to create a necessarily more humane outer world for these vibrant animals. 🐾



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.

RIGHTEOUS PORKCHOP

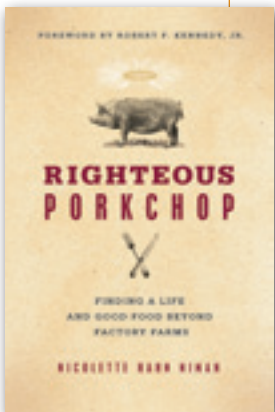
By Nicolette Hahn
William Morrow
ISBN-10: 0061466492
336 pages; \$23.99

RIGHTEOUS PORKCHOP begins with author Nicolette Hahn describing her first exposure to the realities of industrial pig “production” as senior attorney for Waterkeeper Alliance. Nothing she had read prepared her for the stench, pollution or wretched lives of the imprisoned pigs; the impunity with which laws were violated; or the political and administrative corruption in which the system thrives.

Flying with Neuse Riverkeeper Rick Dove over North Carolina’s coastal plain dotted with hundreds of liquid manure “lagoons,” Hahn witnessed the deliberate spraying of sewage into the river drainage system. Back on the ground, she observed the results: a once beautiful river clogged with algae and lined with dead and dying fish, as well as fishermen with unhealed lesions from *Pfiesteria piscicida*, a disease that feasts on red blood cells and has appeared in grossly polluted waters.

On behalf of Waterkeeper Alliance, Hahn filed complaints directly against the world’s largest and most virulent hog factory operator, Smithfield Foods. This brought an unequivocal rejection by the Federal Court in September 2001 of Smithfield’s contention that its operations were “farms,” exempt from discharge permits under the Clean Water Act.

Hahn studied the growth and origin of industrial animal “production” intensely and has incorporated a wealth of information into the flow of her narrative. The latter half of the book focuses on the ethics of raising animals for meat and describes rather touchingly her own immersion in day-to-day activities of ranch life. 🐾



Oil Pollution Persists from Exxon Valdez Spill

TWENTY YEARS AGO, the single-hulled Exxon Valdez tanker collided with the Bligh Reef in Alaska, spilling 11 million gallons of crude oil into the pristine and ecologically significant Prince William Sound. The massive spill—caused by human error and lack of oversight—ruined one of America's most treasured natural areas and caused the deaths of millions of animals, including more than 3,000 sea otters, 300 harbor seals, 250,000 murrelets, 14 orcas, and countless fish and benthic invertebrates. Some species are still unrecovered today, and the environment remains blanketed in oil.

A 2009 status report from the Exxon Valdez Oil Spill Trustee Council states, "...Exxon Valdez oil persists in the environment and, in places, is nearly as toxic as it was the first few weeks after the spill." Although two decades have passed, as much as 16,000 gallons of oil persists in the Sound's intertidal zones, continuing to poison wildlife.

Animals such as the harlequin duck have been slow to recover and show elevated levels of polycyclic aromatic hydrocarbons from continued exposure to oil. The persistence of subsurface oils is particularly problematic for species like sea



AP Photo

otters who dig for clams, exposing buried oil in the process. Pacific herring and the pigeon guillemot populations have still not recovered. The small AT1 population of orcas will likely become extinct, marking the death of a priceless genetic lineage and a complex society that has inhabited the region for thousands of years.

The Oil Pollution Act was unanimously passed by Congress in 1990 in response to public concern over the spill. The Act contains provisions to prevent similar catastrophes from occurring including

a conversion of oil tankers to double-hulled, the establishment of spill contingency plans, and the creation of regional advisory councils to monitor the actions of the oil industry. While 79 percent of the global supertanker fleet has been replaced by vessels with two hulls, Exxon, the world's largest oil company, has kept using tankers with only one. 🐾

Above: Nancy Bird, president of the Prince William Sound Science Center in Cordova, Alaska, shows oil-soaked soil collected in May 2007 from Smith Island in Prince William Sound. "Scientists tell me the remaining oil will take decades and possibly centuries to disappear," she says.



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