

A dramatic underwater photograph of a whale breaching the ocean's surface. The whale's head and back are visible, surrounded by a massive, dense school of fish, likely salmon, swimming in the deep blue water. The scene is captured from an underwater perspective, looking up at the whale as it moves towards the surface.

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SPOTLIGHT

Welcome Outcome for Ocelots

Ocelots may have a better chance at survival in the United States, thanks to a June 26 settlement AWI and the Center for Biological Diversity reached with the US Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) and the US Fish and Wildlife Service. Per the settlement, APHIS and the USFWS have finally agreed to examine the threat posed by APHIS' Wildlife Services program to endangered ocelots in Arizona and Texas.

Wildlife Services kills tens of thousands of animals in those two states every year using traps, snares, and poisons. The actual "service" this program provides to society is dubious at best, and it operates with little accountability or oversight. The Endangered Species Act, however, does require Wildlife Services to consult with the USFWS to determine the effect

of its actions on endangered animals and what can be done to avoid harm—an obligation it has not fulfilled. The USFWS even warned Wildlife Services in a 2010 biological opinion that its activities put ocelots at risk.

Last October, AWI and the Center sued APHIS and the USFWS over this disregard for the law. After we filed our complaint, Wildlife Services and the USFWS began consultations to examine threats to ocelots and develop mitigation measures.

The suit also asserted that recent science must be taken into account to supplement the decades-old environmental analyses of Wildlife Services' wildlife-killing program in Arizona. Under the settlement, the USFWS will incorporate up-to-date scientific information in its final environmental assessment, to be released by year's end.

This welcome development may not, of course, induce Wildlife Services to see the light and clean up its bloody act. It will, at least, prevent the program from cavalierly ignoring the damage its killing program could do to at least one endangered species. 🐾

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ABOUT THE COVER

A Bryde's whale surrounded by sardines off Baja California. Bryde's whales were increasingly targeted by commercial whalers during the 20th century, after other species were hunted nearly to extinction. Today, there is growing recognition that whales provide far greater ecological—and economic—bounty when left in the ocean. Whales sequester carbon and boost marine productivity via a surprising source: fecal plumes. Whale feces, it turns out, jumpstart marine food chains by stimulating the production of phytoplankton. See the article on page 6 for more on the vital role of whales in ecosystem functioning. Photograph by Doug Perrine/Minden Pictures.



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A North Atlantic right whale mother and calf. Ship strikes and fishing gear entanglements are growing threats to these animals.

GRIM NEWS FROM THE NORTH ATLANTIC

Eight North Atlantic right whales have died since early June, a devastating blow to a population that numbers roughly 500. This disaster has been compounded by the tragic death of Joe Howlett, a founding member of the Campobello [New Brunswick] Whale Rescue Team, who was struck by a right whale that he had just released from fishing gear.

Necropsies are under way on the recent deaths; three of the whales appear to have been hit by ships, while at least one died due to drowning in snow crab gear. A 2016 paper in *Frontiers in Marine Science* noted that ship collisions and fishing gear entanglements are killing an increasing number of right whales. A staggering 83 percent of North Atlantic right whales display scars or carry ropes indicative of past entanglements.

The Canadian Department of Fisheries and Oceans closed the snow crab season early and suspended disentanglement efforts for right whales, pending investigation of the circumstances of Howlett's death. The US National Marine Fisheries Service also suspended large whale

disentanglement efforts. It is hoped that lessons about the recent mortalities can be learned in time to protect the remaining right whales. Another die-off of this magnitude would be catastrophic, especially as calving rates are down by almost 40 percent since 2010.

LATEST DEVELOPMENTS IN DESPERATE FIGHT FOR VAQUITA

On July 6, AWI cosponsored a "Save the Vaquita" rally at the Mexican Embassy in Washington, DC. The well-attended gathering (despite pouring rain) received wide coverage in Mexican media and followed a flurry of actions aimed at staving off extinction for the vaquita. In mid-June, Representative Jared Huffman (D-CA) held a briefing on vaquita, with AWI taking part on the panel; Rep. Huffman also sent a letter, signed by 30 colleagues, urging the Departments of Interior and Commerce to help save the species. On June 30, the Mexican government issued a new regulation—purportedly a permanent ban on gillnets, the leading cause of vaquita mortality.

On July 5, UNESCO's World Heritage Committee (WHC) told Mexico it has one year to improve protections for the Upper Gulf of California World Heritage site or face an "in danger" designation for the area. In 2015, AWI and the Center for Biological Diversity called on the WHC to list the site as "in danger" due to the vaquita's rapid decline.

Despite these efforts, the situation remains dire, especially as the new Mexican regulation is not a ban on all gillnet use. Corvina and mackerel fishers can still use these deadly nets, and the rule fails to prohibit their possession, sale, and manufacture.

JAPAN RAMPS UP EFFORTS TO BRING BACK COMMERCIAL WHALING

Japan has adopted a new law that (1) guarantees huge state subsidies for its otherwise nonviable whaling industry, (2) seeks to raise demand for whale meat, and (3) establishes penalties against foreign protesters. With uncharacteristic bluntness about their political strategy, officials confirm that Japan will use its ongoing "scientific whaling" program, which kills hundreds of whales each year in the Antarctic and North Pacific, to convince the International Whaling Commission (IWC) to bring about the swift resumption of commercial whaling, after a 30-year pause. At a press conference to introduce the new law in early July, Fisheries Agency Director Shigeki Takaya even went as far as to warn that, having recently assumed the chairmanship of the IWC, Japan expects the new chair to prompt further debate on a resumption of commercial whaling.

OIG AGREES: LOLITA'S TANK IS TOO SMALL

For years, the animal protection community, including AWI, has maintained that the tank for Lolita, the lone orca who has languished for over 45 years at the Miami Seaquarium, does not meet the minimum space requirements for her species under US law. Complaints, comment letters, and finally a pending lawsuit have all pointed out how Lolita's 1960s-era tank is only 35 feet at its narrowest point—known as the “minimum horizontal dimension” (MHD)—rather than the 48 feet required for orcas by the Animal Welfare Act regulations. This legal dimension itself is grossly inadequate, but Lolita's tank is smaller still. Thirty-five feet is not much longer than Lolita's body, tip to tail.

Yet the US Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) has allowed this situation to persist, coming up with various explanations—none of them logical or consistent—for its lack of enforcement. June, however, saw a startling development, when the USDA's Office of Inspector General (OIG) issued a report of an audit it conducted on APHIS' implementation of the regulations specific to cetaceans.

The report noted, among other things, that Lolita's tank “would only have an MHD of 35 feet ... this falls short of the minimum requirements for an orca.” The OIG, in short, agreed with us. It recommended that APHIS clarify how tanks like Lolita's meet the minimum space requirements. APHIS' response did nothing of the sort; it directed the OIG to read an agency document from 1979 that it claimed “explained ... how those requirements apply to pools with unique configurations.” This outdated document said nothing at all that was relevant to Lolita's tank.

Despite the OIG failing to challenge the agency's response, its conclusion that Lolita's tank appears to be noncompliant with regulations may prove useful in the pending lawsuit.

AWI ADDRESSES CAPTIVE CETACEAN WELFARE AT DETROIT SYMPOSIUM

AWI seeks to persuade not just the general public and policymakers, but zoos and aquariums themselves, that cetaceans (whales, dolphins, and porpoises) do not belong in captivity. Accordingly, AWI's Dr. Naomi Rose agreed to participate in the 4th International Animal Welfare Congress, held in early May this year, hosted by the World Association of Zoos and Aquariums (WAZA) and the Detroit Zoo's Center for Zoo Animal Welfare (CZAW). This symposium is by invitation only and this was the first year Naomi was invited. She was asked to participate on a panel discussing the future of cetacean captive display, most notably the potential for establishing seaside sanctuaries.

The symposium participants were a fascinating mix of animal welfare scientists, academics, zoo professionals, nonprofit animal groups, sanctuary operators, and media representatives. The discussions covered a wide array of topics, species, controversies, and scientific investigations. While many zoo professionals still feel that wildlife welfare is adequately safeguarded in accredited zoos, a growing number acknowledge there is significant room for welfare improvement within the zoo world, regardless of accreditation. Indeed, some now openly acknowledge that certain species cannot be adequately provided for in captivity. Several of these iconoclasts include cetaceans within that group.

The debate and dialog between animal protection advocates on the one hand and zoo representatives on the other regarding the suitability of cetaceans for captive display will continue for the foreseeable future, but events such as the WAZA/CZAW symposium demonstrate that the conversation is not standing still. AWI will continue to engage wherever minds are open to progress and change.



INGRID VISSER



A WHALE OF AN EFFECT ON OCEAN LIFE

— The Ecological and Economic Value of Cetaceans —

What if an animal could entertain and educate millions of people annually, enhance productivity (thereby increasing the number of fish in the sea), mitigate climate change, feed billions of marine animals, generate billions of dollars in revenue globally, and even help get tough stains out of your clothes? Does such an animal exist?

Whales—animals that humans nearly exterminated—can do all that and more. The unsubstantiated claims that whales compete with humans for fish or that they must be killed to ensure global food security are nonsense. Instead, a growing body of scientific evidence demonstrates that saving whales could help save the planet and, in turn, humankind.

Approaching Extinction

The era of large scale commercial whaling lasted nearly 400 years, from the early 17th century to 1986. During that period, whalers mercilessly pursued their prey, exploiting and depleting one species after the next. While the exact death toll amassed over these four centuries is not known, scientists have estimated that during the 20th century alone, over 3 million whales were killed, mainly for their valuable oil.

By the time a global moratorium on commercial whaling, approved by the International Whaling Commission (IWC), went into effect in 1986, scientists estimated that whale numbers had plummeted from 66 to 90 percent of their pre-whaling abundance, with some populations, like blue whales in the Southern Hemisphere, declining by 99 percent. While the moratorium remains intact today—saving countless whales—commercial and “scientific” whaling continue, with Iceland, Norway, and Japan killing more than 43,000 whales since 1986.

A previously ignored consequence of the slaughter was that it prevented whales from fulfilling their evolutionary role in the ecosystem. In every ecosystem, every native species has a role in the ecology of their habitat, from the smallest microorganisms to the most dominant predator. In a properly functioning ecosystem, they collaborate in a symbiotic dance that maximizes productivity and abundance within nature’s parameters.

Enhancing Productivity

Far from just providing huge amounts of meat, blubber, and oil for human consumption, whales provide important ecosystem services that have gone overlooked in debates about commercial whaling and whale conservation.

Whale fecal plumes contain valuable nutrients like iron, nitrogen, and phosphorus. They stimulate production of microscopic marine algae, or phytoplankton, which form the base of many marine food chains. Phytoplankton, via photosynthesis, convert chlorophyll, sunlight, and a variety of nutrients including carbon dioxide into energy, while expelling oxygen. Phytoplankton feed zooplankton, tiny animals that live in surface waters, and both are critical food sources for many marine species such as krill and other marine invertebrates, fish, and even marine mammals, including whales.

In a study of blue whales in Antarctica, scientists determined that iron concentration in blue whale feces is 10 million times that of Antarctic seawater. As iron is a limiting micronutrient in the Southern Ocean, its availability triggers phytoplankton blooms. Another study determined that blue

whales in the Southern Ocean, via fecal plumes, increase primary production available to support fisheries by 240,000 (metric) tonnes of organic carbon (which all animals in the oceans need to survive) per year. If blue whales recover to pre-industrial whaling levels, this benefit will increase to 11 million tonnes of carbon per year—increasing, not decreasing, fishery yields. While this is only a small fraction of the overall primary production in the Southern Ocean, at the local scale where such fertilization benefits are realized, the impacts may be significant.

Indeed, scientists have determined that the slaughter of baleen whales in the Southern Ocean caused a long-term decline in primary production, which, in turn, caused the krill population to plummet to as low as 20 percent of pre-industrial whaling levels. Today, although whale stocks in the Southern Ocean are recovering—some more quickly than others—krill numbers have not recovered to pre-industrial whaling levels and are now threatened by direct harvest and climate change.

In the Gulf of Maine, scientists found that marine mammals enhance primary production in feeding areas by supplying nitrogen to surface waters through release of fecal plumes and urine. They determined that whales and seals may replenish 23,000 tonnes of nitrogen per year in the Gulf of Maine surface waters, more than the input of nitrogen from all of the rivers feeding the gulf combined.

In another study, endangered right whales in the Bay of Fundy in Canada were found to enhance primary productivity through the release of nitrogen and phosphorus in their fecal plumes. In Hawaii, the feeding behavior of 80 sperm whales transferred 100 tonnes of nitrogen from deep waters to surface waters,



A humpback whale lunges for a meal while brown pelicans vie for leftovers. Whales play a key role in cycling nutrients through the food chain, increasing marine productivity.

HOWARD IGNATIUS

enhancing primary production by 600 tonnes of organic carbon per year. Due to the decimation of sperm whales by commercial whaling, however, Hawaiian waters have lost 2,000 tonnes of new nitrogen each year, decreasing primary production in the region by 1,000 tonnes of organic carbon annually.

The deep diving and surfacing behavior of sperm whales and some baleen whales transports nutrients in their fecal plumes from deeper water to the surface and, for gray and humpback whales, by carrying sediment from the sea floor and redistributing it in the water column, to the benefit of sea birds and other marine species. As noted by Drs. Joe Roman and James McCarthy, “Cetaceans feeding deep in the water column effectively create an upward pump, enhancing nutrient availability for primary production in locations where whales gather to feed.” This vertical transport of nutrients is referred to as the “whale pump” and was first postulated in 1983. Scientists have determined that biomixing by marine vertebrates, including whales, contributes one-third of total ocean mixing, comparable to the effect of tides or winds.

Whales also transport nutrients in their fecal plumes, urine, sloughed skin, and placental materials horizontally, a phenomenon referred to as the “whale conveyor belt,” as they migrate between nutrient-rich feeding areas and nutrient-limited breeding/birthing areas. Blue whales in the Southern Ocean, for example, transport approximately 88 tonnes of nitrogen per year from their feeding to their calving grounds. Before commercial whaling, blue whales would have transported 24,000 tonnes of nitrogen via the conveyor belt.

Sequestering Carbon

Phytoplankton use carbon dioxide during photosynthesis. Thus, enhancing phytoplankton productivity via the release of nutrients in whale feces increases the removal of carbon dioxide from the atmosphere. In the Southern Ocean, approximately 12,000 sperm whales deposit an estimated 36 tonnes of iron into surface waters each year, enhancing primary production in phytoplankton. While the carbon contained in some phytoplankton will continue to be recycled by marine animals feeding and defecating in surface waters, 20 to 40 percent of such carbon will settle to the sea floor as phytoplankton die and sink, effectively locking up the carbon for centuries to millennia. Globally, more than 200,000 tonnes of carbon may be sequestered—and its negative effects on climate removed—each year.

Sperm whales, by enhancing primary productivity, effectively remove 240,000 tonnes more carbon from the atmosphere than they add during respiration. Since sperm whale population numbers in the Southern Ocean have not recovered to pre-industrial whaling levels, an extra 2 million tonnes of carbon

that could have been removed by a full complement of sperm whales remains in the atmosphere each year. Since Southern Ocean sperm whales represent only 3 percent of all sperm whales globally, the species may significantly contribute to iron fertilization and carbon drawdown.

When whales die, their massive bodies contain a large amount of carbon. As their carcasses sink to the ocean floor—often referred to as “whale fall,” this carbon is effectively stored in the ocean for centuries. Scientists have estimated that the combined global populations of nine great whale species (blue, fin, gray, humpback, bowhead, sei, Bryde’s, minke, and right whales) sequester nearly 29,000 tonnes of carbon per year via whale falls. Due to the significant loss of whales to commercial whaling, current populations of large baleen whales store 9.1 million tonnes less carbon than if their numbers were at pre-exploitation levels. If these whale stocks were rebuilt, they would remove 160,000 tonnes of carbon each year through whale falls, which is roughly equivalent to 110,000 hectares of forest (or an area the size of Rocky Mountain National Park).

Nourishing the Depths

In addition to storing carbon, whale carcasses feed an array of marine and terrestrial species. When whales strand on land, bears, other mammals, scavenging birds, and marine and terrestrial invertebrates benefit from the massive windfall of food and nutrients and, in turn, expand the nutrient flow from the sea to land.

Whale falls, according to the scientific literature, create habitat islands, benefiting scavengers like sharks and hagfish, crustaceans, gastropods, bivalves, clams, shrimp, anemones, bacteria, and a litany of other marine organisms, including



ARTHUR T. LABAR



RODERICK EIME

some species heretofore unknown. Indeed, scientists have identified 129 new species collected from whale remains, including over 100 considered to be whale-fall specialists, and predict that hundreds of other whale-fall specialist species remain to be discovered.

The frequency of whale falls declined substantially due to industrial whaling and may have caused a substantial number of anthropogenic species extinctions in the deep sea. Whether such species would have had any value to humans will never be known—although, in an interesting twist, enzymes of psychrotrophic bacteria (bacteria adapted to extremely cold environments) found at whale falls have garnered commercial interest from the laundry detergent, pharmaceutical, and food processing industries. One biotechnology company has determined that clones of bacteria found on whale carcasses may be effective in removing stains from laundry during cold-water washing, potentially providing significant energy savings, increased profits, and cleaner clothes.

Creating Value

Whales have an enormous economic value as the popular subject of marine tourism. Globally, whale watching generated over 2 billion dollars in revenue in 2012 and supported some 13,000 jobs while providing millions of people an opportunity to observe and learn about whales and other marine species in the wild. Such revenue is well in excess of the value of whale meat, blubber, or other products sold commercially, demonstrating the obvious fact that a live whale is worth far more than a dead one.

The ecosystem services provided by whales, including increasing primary production, directly and indirectly sequestering carbon, and providing nutrients and habitat to myriad marine species, also have an economic value. Such values have been calculated for other species, including

bats and pollinators. While economists have calculated the value of whale watching, no comprehensive assessment has been done of the direct and indirect value of whales and the economic and ecosystem services they provide.

Going Forward

The direct and indirect value of whales warrants attention. At its 2016 meeting, the IWC adopted a resolution that recognizes the contributions of cetaceans to ecosystem functioning and encourages IWC member governments to factor these contributions into decision-making. It further envisions a central role for the IWC Scientific Committee in (1) reviewing the ecological, economic, and other contributions of cetaceans to ecosystem functioning, (2) identifying gaps, and (3) creating a plan for future research needs. It also promotes collaboration with other multilateral environmental agreements to study the issue.

The subject has since been discussed at a conference about whales in Tonga. It was also the subject of an AWI-cohosted workshop in late July, at the Society for Conservation Biology's International Congress for Conservation Biology in Cartagena, Colombia, that considered how to integrate this emerging issue into global environmental policy—for the good of the whales and the health of the planet. For example, although saving whales will not fully mitigate the impacts of climate change, it should be part of a comprehensive, global strategy to reduce greenhouse gas emissions.

Whales may not swim with capes but, based on the evidence of their immense ecological and economic value, perhaps they should be considered superheroes saving the planet. They should no longer be considered as a source of consumables. Instead, they should be fully protected from commercial and “scientific” whaling, bycatch in fishing gear, and other threats to their survival, so that they can fulfill their role in helping to sustain the planet and humankind. 🐳

WIND FARMS COULD BLOW WHITE DOLPHIN OUT OF WATER

The International Whaling Commission (IWC) Scientific Committee held its annual meeting in mid-May, once again choosing Bled, Slovenia, as its venue. AWI's Dr. Naomi Rose attended, focusing (as she has in previous years) on work within the Environmental Concerns Standing Working Group and the Sub-Committee on Whalewatching. Her efforts were instrumental in ensuring that the committee's report included helpful language regarding the negative impacts of marine noise and the capture of orcas in Russia's Sea of Okhotsk for zoos and aquariums.

Prior to the meeting, Naomi spent a week in late April participating in a workshop in Taiwan to assess the impacts of several large offshore wind farms proposed for Taiwan's west coast. Several of these projects would abut or encroach within the highly restricted habitat of the critically endangered (as designated by the International Union for Conservation of Nature) Taiwanese white dolphin (*Sousa chinensis taiwanensis*). The workshop—hosted by Taiwanese environmental group Wild at Heart and attended by experts from Taiwan, Australia, Belgium, Brazil, Canada, China, Denmark, New Zealand, the United Kingdom, and the United States—concluded that this recently identified subspecies, with fewer than 75 individuals left, faces possible extinction from multiple threats. The wind farms could well be the last straw.

Naomi presented the workshop's deliberations and concerns to the IWC Scientific Committee and was able to get this international body to make strong recommendations, directed at the authorities in Taiwan,

to practice precaution as they move forward with the wind farm proposals. Wind energy may be far superior, environmentally, to fossil fuels, but when wind farms are located offshore, there are potential negative impacts on marine life, particularly during the construction phase. When offshore wind farms are proposed for the only habitat of a critically endangered marine wildlife population, that impact could be devastating. The green energy industry, like any other industry, needs to ensure it will be part of the solution rather than part of the problem.

In its ongoing efforts to help protect the Taiwanese white dolphin, AWI has also been awaiting the US National Marine Fisheries Service's decision on the petition, filed last year by AWI, the Center for Biological Diversity, and Wild Earth Guardians, to list the Taiwanese white dolphin as endangered under the US Endangered Species Act (ESA). Good news came on June 26, when the agency published a proposed rule to list the dolphin as endangered. If finalized, the rule will allow the US government to work with Taiwanese authorities to strengthen protections for this imperiled subspecies. The public comment period is open until August 25. AWI will submit comments in support of the proposal.

Through our work at international forums such as the IWC Scientific Committee, workshops such as the one on offshore wind farms in Taiwan, and policy efforts such as the ESA petition to the US government, AWI will continue to do all we can to ensure the survival of the Taiwanese white dolphin. 🐬



Hope Ryden

AUGUST 1, 1929 – JUNE 18, 2017

North American wildlife lost one of their staunchest advocates with the death in June of esteemed author and naturalist Hope Ryden. AWI is honored to have worked with Hope: From the 1980s through 2004, she served on the board of trustees of AWI's lobbying arm, the Society for Animal Protective Legislation (SAPL). After AWI and SAPL merged in 2004, Hope moved to AWI's scientific committee.

Hope's first in-depth project for animals occurred in her mid-30s, when she produced an ABC documentary on the rescue of thousands upon thousands of wild animals in Suriname after their rainforest home was flooded by the construction of a dam on the Suriname River. (A photo from the rescue operation hung in AWI's former Georgetown, DC, office for decades.)

A July 11, 1968, news segment Hope produced on Bureau of Land Management plans to round up wild horses in the Pryor Mountains of Montana and Wyoming shifted the political landscape and prompted Secretary of the Interior Stewart

Udall to establish the Pryor Mountain Wild Horse Range—a refuge of more than 33,000 acres. Hope went on to testify at House and Senate hearings on the protection of wild horses on public lands, which culminated in the adoption of the Wild and Free-Roaming Horses and Burros Act of 1971. At one such hearing, Hope stated, "Although I am normally not a crusader, the plight of the mustangs so gripped me that I left my job to spend full time studying, photographing, and writing about these persecuted animals." Later, Hope testified before the Supreme Court as part of a successful defense of the constitutionality of the law.

Hope became renowned for her keen, meticulous observation of animals, catching behaviors not previously documented. She spent years gathering data on wild mustangs, coyotes, and beavers, among others. Her extensive writing and artful photography exuded her passion for wildlife. She opened readers' eyes to the moving and intricate lives of individual animals and families, not just of species as a whole. Among her more than twenty books:



America's Last Wild Horses, God's Dog: A Celebration of the North American Coyote, Bobcat Year, and Lily Pond: Four Years with a Family of Beavers. To the end, Hope remained an activist, ever advocating for the right of wild beings to live in their natural habitats without threat from people set on their destruction. AWI is forever grateful to Hope for offering us an intimate look into the lives of wild animals and for motivating countless citizens to call for their protection. 🐾



HOUSE COMMITTEE VOTES TO HOBBLE HORSE PROTECTIONS

The Senate Appropriations Committee voted to maintain the long-standing ban on horse slaughterhouse inspections by the US Department of Agriculture. Prohibiting these inspections effectively prevents such plants from operating in this country. However, the House Appropriations Committee narrowly voted *against* keeping the ban in place. Opponents of the amendment shamelessly mischaracterized the provision and, in a deliberate move to confuse committee members, erroneously tied it to the wild horse issue. With the Senate language in place, the fight continues, and every effort is being made to ensure that horse slaughter will not be allowed to resume in the fiscal year starting in October.

The House Appropriations Committee then approved a Fiscal Year 2018 spending bill for the Department of the Interior that removes long-standing protections for wild horses and burros. Under an amendment by Representative Chris Stewart (R-UT), the federal government and

its agents would be permitted to kill healthy unadopted wild horses and burros; the only limitation is that they could not sell them to be used in “commercial products,” including for human consumption. The bill would also permit transferring these animals to other federal, state, and local agencies for “use as work animals,” and would strip any transferred horses and burros of their legal status as “wild free-roaming.” (Receiving agencies, however, would not be able to “destroy” or sell these animals for use in “commercial products” or have them euthanized unless a vet recommends it.) The acceptance of this amendment breaks faith with the American public’s expectations regarding the management of wild horses and burros.

UMPTEENTH ATTEMPT TO UNDERMINE ESA

The 115th Congress has declared war on the Endangered Species Act (ESA). Even though the ESA has a 99 percent success rate in preventing the extinction of listed species and 90 percent of the American public strongly supports the law, its opponents are

determined to dismantle it. There are now at least 30 bills attacking the law; five of those had a hearing in the House Natural Resources Committee in July, suggesting that they are being readied for action. Among other things, these bills would weaken the “citizen suit” provision of the ESA (which allows for legal challenges to the government’s species management decisions), give wealthy game ranchers in Texas carte blanche to breed and kill endangered species without a permit, and remove federal protections from gray wolves in the Great Lakes region.

The Senate Environment and Public Works Committee approved its own bill, S 1514, to remove federal protections from certain populations of gray wolves, prevent court challenges to those decisions, and prohibit the regulation of deadly lead fishing gear, despite substantial research showing that toxic lead in the environment poses a significant hazard to wildlife and the public. Unfortunately, an amendment removing the anti-wolf language was defeated, and an amendment allowing the importation of certain polar bear trophies was approved.

Meanwhile, the House Appropriations Committee dealt another blow to threatened and endangered species. Its bill to fund the Department of the Interior blocked the department from implementing a proposed rule to protect sage grouse, reinstated wolf delistings in Wyoming and the Great Lakes region, and blocked funding for gray wolf protection in the lower 48 states.

Tell Congress to stand up for the ESA:
www.awionline.org/ESA-attacks

Wild burros in California. A spending bill approved by the House Appropriations Committee would allow the federal government to kill healthy wild horses and burros.



JAMES MARVIN PHELPS



ELIZABETH PHUNG

The Virginia attorney general's office and the US Department of Justice helped bring down a cockfighting ring that had operated for two decades out of McDowell, Kentucky.

MORE CONVICTIONS IN KENTUCKY COCKFIGHTING BUST

There is more good news regarding a multijurisdiction cockfighting case first reported in the fall 2015 *AWI Quarterly*. The case focused on the Big Blue Sportsman's Club in eastern Kentucky, where cockfights had been held for more than 20 years. In 2014, Virginia Attorney General Mark Herring and the US Department of Justice prosecuted five defendants for cockfighting and a variety of other crimes, securing prison terms for all of them. Since then, another four individuals have been convicted for crimes related to this investigation: Jimmy Crate Willis of Clintwood, Virginia, received probation and fines for conspiracy to knowingly sponsor and exhibit an animal in an animal fighting venture. Russell Peaks, who raised birds for fighting in Wise County, Virginia, received a 24-month jail term for allowing a minor to attend a cockfight, distributing hydrocodone, and conspiring to facilitate cockfighting. In March 2017, Big Blue owners

Shirley Ray Slone and Vernon Kelly Slone pleaded guilty to one count of conspiracy to cause others to attend a cockfight. In addition to forfeiting \$100,000, they were required to pay for the destruction in May of the club's facility. On June 8, both were sentenced to one year's probation.

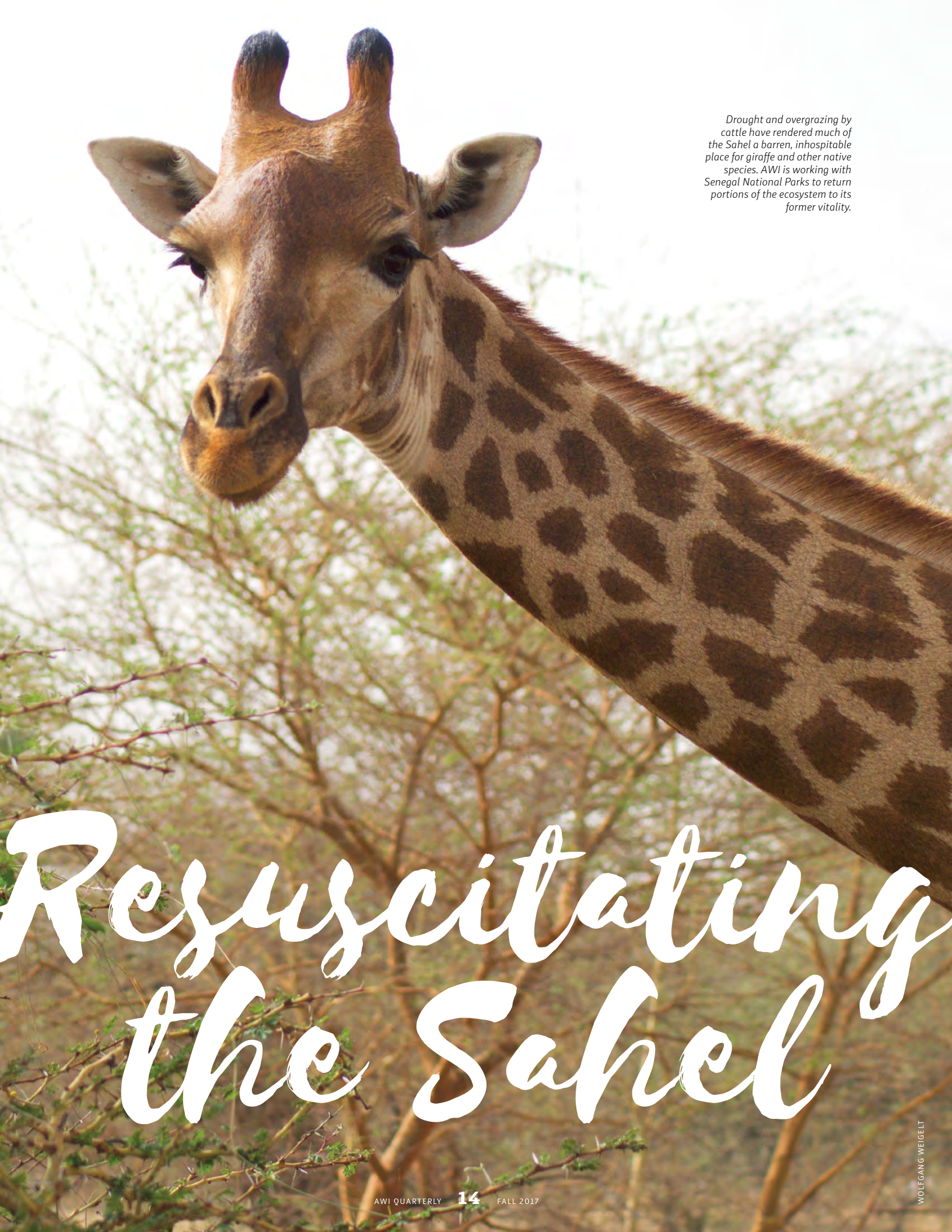
ANIMAL ABUSE PROMPTS PET SHOP SHUT DOWN

In 2013, New York Attorney General Eric Schneiderman established an Animal Cruelty Initiative to focus on prosecuting animal cruelty crimes and protecting consumers from unscrupulous companion animal dealers. Earlier this year, his office struck a blow on both counts by substantially fining pet store owner Richard Doyle and putting him out of business. The attorney general's office was responding to numerous complaints from people who had bought sick animals from Doyle. Despite Doyle's assurances

to his customers that the dogs were healthy, many suffered from parvo, pneumonia, and other diseases. The investigation found that the store owner, who is not a veterinarian, performed surgery on animals in the back of his store, among other disturbing practices. Attorney General Schneiderman commented that cases like this "reaffirm my commitment to encouraging those in search of a new pet to adopt from a local shelter, rather than purchasing an animal."

OHIO COURT SAYS PETS ARE MORE THAN PROPERTY

There is another addition to the growing body of case law acknowledging that companion animals are not mere property. As reported by the *Toledo Blade* late last year, Ohio's 6th District Court of Appeals "has taken a stand by placing a higher value on companion animals." The case in Toledo involved an attack on a pit bull puppy by another dog. The appeals court sent the case back to the municipal court for another hearing after determining that "substantial justice was not done" by the trial court, which awarded the owner only \$400—the puppy's market value—rather than the thousands of dollars in medical expenses sought by the plaintiff to treat the puppy's severe injuries. The three-judge panel wrote, "We agree with and acknowledge that pets do not have the same characteristics as other forms of personal property, such as a table or sofa which is disposable and replaceable at our convenience."



Drought and overgrazing by cattle have rendered much of the Sahel a barren, inhospitable place for giraffe and other native species. AWI is working with Senegal National Parks to return portions of the ecosystem to its former vitality.

Resuscitating the Sahel

AWI HELPING WILDLIFE RETURN TO SENEGAL

With very few exceptions, Africa's Sahel—a strip of Africa that lies just south of the Sahara Desert—is a barren, devastated place populated largely by semi-nomadic Fulani herdsman who keep watch over far too many sickly, skinny cows. It suffers from desertification, the direct result of massive overgrazing in a fragile and arid ecosystem.

Hungry livestock forage vigorously, desperate to glean the slightest morsels of nutrition from an increasingly depleted landscape. They often eat any plant right down to the ground level, leaving little prospect for it to regenerate. The exposed soil then quickly dries out and is swept away by the wind, sometimes creating enormous dust storms. Native wildlife also suffer. Their numbers are greatly diminished and several species have become locally extinct.

The Sahel is a story of tragedy. But there is a way out. And AWI is partnering with Senegal National Parks (SNP) to turn the story around.

Life on the Sahel wasn't always like this. Under natural conditions, the arid ecosystem provided reasonably well for the people, their livestock, and the wildlife who shared this enormous landscape—and it is enormous: about 500 miles wide, stretching 3,360 miles from the Atlantic Ocean to the Red Sea. In times past, water was the principal limiting factor. A herdsman knew he could keep only as many cows as the available water permitted. If seasonal rains produced water for only 20 cows, he could not keep 100. And the local vegetation did not have to bear the impact of 100 voracious grazers.

Wildlife fit into this system quite well, since all species that naturally inhabit the Sahel are very well adapted to this environment. Giraffes, for example, prefer to eat moisture-rich leaves from the thorny umbrella tree (*Acacia tortilis*) that is relatively common across the Sahel. A well-fed giraffe has hardly any need of free-standing drinking water. Neither does the scimitar-horned oryx (*Oryx dammah*), the dorcas gazelle (*Gazella dorcas*), or the dama gazelle (*Gazella dama*). All these and others have metabolisms that conserve water very well, and anatomies that are superb for dissipating heat.

Then came an era when kind-hearted people wanted to help diminish poverty on the Sahel. But they discovered the Fulani do not measure their wealth in money, mansions, or jewelry. They count their wealth in the number of cattle they own. A Fulani

herdsman who owns 100 cows is much wealthier than one who owns only 20. Aid organizations reasoned that if you want to help a Fulani herdsman escape poverty, give him more cows.

To provide access to the ocean of water that lies only 50 or 100 feet beneath the surface, bore holes and wells were dug. Many projects dug many wells, and by four or five decades ago, water ceased to be the limiting factor for life on the Sahel. Vegetation quickly assumed that function.

With abundant water, a herdsman could keep as many cows as there was grass to feed them. This newfound abundance proved illusory, however. In fact, the additional cows contributed to a downward spiral that resulted in vast stretches of the Sahel becoming denuded and desertified.

The solution is just as obvious: Reverse course. Today, AWI is working with SNP to demonstrate how this barren and sorrowful landscape can reclaim its former vitality and joy. We are implementing gentle and incremental measures designed to benefit everyone who lives on this land—wildlife, livestock, and people. Our partnership seeks to restore the harmony that had once guided the dynamics of life in this part of the world.

SNP is a formidable partner. Since Senegal gained independence from France in 1960, SNP has diligently managed five national parks and another five fauna reserves, sometimes under enormous stress and in the midst of great tragedy. Dozens of rangers have lost their lives in defense of wildlife in this West African nation. Parfait Mane, a Senegalese park ranger, literally died in the arms of former SNP director Souleye Ndiaye after he was shot in a battle with a poaching gang in Niokolo-Koba National Park. But SNP has kept its resolve, and since independence, Senegal has not lost a single wild animal species to extinction.

We are working in the Ferlo, a region in the remote northeast corner of Senegal—the most arid and impoverished part of the country. Senegal's government has transferred responsibility for more than 1,500 square miles to SNP with simple instructions: Revive this ecosystem according to guidelines established by the Biosphere Reserve program of the United Nations Educational, Scientific and Cultural Organization (UNESCO). These instructions were issued with the stroke of a pen in an air conditioned government office in Dakar. Nobody mentioned a word about budget or technical support.

But good deeds sometimes do not depend initially upon budget and technical support as much as they rely upon clear thinking and good will. These can then attract the necessary budget and technical support.

The project's basic concept is well defined, and initial goals have been accomplished. From the start, we understand that nature must benefit, the Fulani community must benefit, and the livestock must benefit, and this must be accomplished in a benevolent manner that will attract the interest of the neighbors. We want those neighbors to be keen on copying our example, and be part of a sequence of projects that can help to resuscitate the Sahel.

A UNESCO Biosphere Reserve generally contains a fully protected core that is reserved exclusively for nature. This area is inhabited only by native wildlife and native vegetation. This is a wilderness area with maximum emphasis on restoring and protecting natural ecological dynamics.

Surrounding the core is a buffer zone—a transition area that protects the core from having a hard border with disruptive human activities. In the Ferlo buffer zone, Fulani herdsman will be invited to bring a strictly limited number of healthy livestock to graze on a rehabilitated and well-vegetated savanna. They will be sharing this area with the antelopes and gazelles and ostriches, just as their ancestors did only a few generations ago. Here, they can learn that life is much more pleasant with 20 healthy cows on a wholesome habitat than with 100 sickly cows on a wasteland, and indeed this should be the situation that they bequeath to their children.



A Fulani herdsman tends his cows.

EC ECHO ANOUK DELAFORTRIE

At present, the Senegal project has an “exclosure” fence surrounding 1,200 hectares (about 4.6 square miles) of rehabilitated habitat in the Ferlo. The fence is called an exclosure because its principal intention is to keep livestock out. Within the fence, SNP is working on habitat rehabilitation and endangered species reintroduction. Present plans intend to expand this exclosure first to 5,000 hectares (about 20 square miles), and ultimately to 84,000 hectares (about 324 square miles)—large enough for a modest national park.

Habitat rehabilitation inside the fence primarily involves just letting the earth rest and catch its breath. Even experienced field biologists are commonly surprised by how well a savanna habitat like the Ferlo can bounce back simply by protecting it from the constant burden of livestock. Three or four years of protection and a modest measure of seasonal rains result in native vegetation recolonizing much of the barren landscape. Park rangers can help a bit by planting specific vegetation, clearing and maintaining fire breaks, and engaging in various other management activities. Of course, full rehabilitation will take longer. That critical layer of topsoil must be reconstituted before some native plants can return. But major progress can be accomplished within five years.

Today, a mix of extant and reintroduced native wild species live in Ferlo's rehabilitated habitats. Ostriches, jackals, patas monkeys, warthogs, and red-fronted gazelles have always survived here—albeit in greatly diminished numbers. But species such as the scimitar-horned oryx and the dorcas and dama gazelles were targeted too intensely and were locally exterminated. Working with partners from Spain, France, and Israel, the Senegalese have received founder populations of these lost animals, and are in the process of restoring them to their native land. The scimitar-horned oryx reintroduction has been particularly successful. Starting with only eight individuals 18 years ago, the Senegalese have grown this to a population of 330.

AWI is helping Senegal with two important next steps: (1) improvement and expansion of the core area and (2) community relations.

For the core area, we're looking at making improvements to the existing fence, and more than doubling the protected area. The existing fence needs improving because warthogs have been burrowing under it to dine on the attractive vegetation within. No problem. They are welcome. But the jackals and hyenas in the area have discovered the warthog excavations and found them convenient for gaining access themselves. That is a problem. These carnivores have started preying on young gazelles, including the highly endangered dama gazelles.



Left: Native warthogs are drawn to vegetation in the protected area. (G Bayliss) Right: Scimitar-horned oryx are returning to the Sahel. (Bill Clark)

Under natural conditions, predation is part of the ecological dynamics of any habitat. But right now, with certain populations so low, it is important to provide them with extra protection until they are robust enough to withstand natural predation. Until then, we'll shelter the gazelles behind a fence that has a concrete footing that should stymie the burrowing of the warthogs.

The protected core area is close to the Fulani village of Katane. At present, a single well provides water for both the village's livestock and the wildlife on the other side of the fence. A common pool straddles the enclosure fence and SNP is a bit nervous about letting wildlife get so close to sickly cows. We need to separate them. This will be done by building a water tower that holds about 150 tons of water. That volume of water will provide pressure to the water pipes to help push water to concrete drinking troughs separated by several hundred yards: one trough for the livestock and one for the wildlife. The troughs will be elevated, just high enough for the animals to drink from without being able to step into them.

True, the wild animals really do not need the water tower and can survive without access to open water. However, that access is nevertheless beneficial at this stage of the project. Good hydration and good nutrition are factors that contribute to a good birth rate. So until the numbers of these endangered animals climb to the point where they can sustain the higher stress of life in a truly natural environment, we'll continue to provide certain extra benefits that will help them recover.

The water tower will also help us divert a few gallons each day to a community "fertigation" vegetable garden. Fertigation

is a highly disciplined system that works well in small-scale garden projects. A small amount of fertilizer is dissolved in irrigation water and trickled into a network of plastic hoses that deliver the mixture in precise amounts to individual plants. It's practical and cost effective. The half-acre garden will be managed and operated by the village's women's cooperative to produce a small surplus of peppers, tomatoes, onions, and other crops that can be sold to neighboring villages. This will produce some cash to cover other village expenses. Hopefully, neighboring Fulani clans will see the benefits soon enough and want their own rehabilitated habitats and productive vegetable gardens.

The intent is to bring the Ferlo back into the habitable part of the world—to re-establish the old order, which provided more clement conditions for people, livestock, and wildlife. It is going in that direction: Even today, Fulani herdsman often gaze across the fence line and see the flourishing habitat inside. They know their villages should be thriving like that. They already understand that there are too many livestock and that continued breeding will not create more wealth. To the contrary, it will create more misery.

One aging herdsman stared intently across the fence line and caught sight of a few scimitar-horned oryxes grazing peacefully. "Rimu" he said. That was the name his grandfather's generation had for this antelope that had been killed off by trophy hunters and disappeared from their midst nearly a century ago. 🐾

COURT DECISION: HUNTERS ARE RESPONSIBLE IF THEY SHOOT PROTECTED SPECIES

In June, a federal judge in Arizona struck down the Department of Justice's longstanding "McKittrick Policy." This policy advised the DOJ's attorneys to prosecute individuals who killed threatened and endangered species in violation of the Endangered Species Act (ESA) only when they could prove that the offender had killed an animal the offender *knew* was a member of a protected species.

In other words, if you shot a protected wolf and said you thought it was a coyote, you were absolved, which not only violated the intent of the ESA, but ensured that offenders were rarely if ever prosecuted for killing protected species. The DOJ adopted this policy in 1999—essentially taking the position of the defendant in *United States v. McKittrick*, despite the fact that the Ninth Circuit Court of Appeals had rejected this narrow intent standard and ruled in the government's favor in the case.

The court's published opinion found that the policy was outside the range of prosecutorial authority given to the department under the ESA. This decision will now allow prosecutors to more aggressively pursue charges against those who willfully kill protected species instead of giving them a get-out-of-jail-free card. Although prosecutors within the department will always maintain a certain level of discretion in deciding when to press charges, and there is some concern that the department may attempt to treat this decision as limited in jurisdiction, this is a significant win, making it more difficult for hunters to get away with shooting protected species.

USFWS CONTINUES QUEST TO WEAKEN WILD RED WOLF POPULATION

In September of last year, the US Fish and Wildlife Service proposed significantly reducing the range of the existing wild population of red wolves by removing individual wolves from the wild in order to increase the captive

breeding population—something the scientific community has said is unnecessary and harmful to red wolf survival. (See *AWI Quarterly*, winter 2016.) Due to the USFWS' gross neglect, the population is now in such dire condition that leading scientists have said that continuing to manage in this manner would likely lead to the species' extirpation within eight years.

The USFWS held two hearings in June in rural areas of North Carolina, and invited the public to submit written comments—supposedly to give citizens a chance to weigh in on the wild population's importance to the red wolf recovery goals, as well as on methods for population management, strategies to address hybridization with coyotes, and when it's appropriate to "take" and/or remove red wolves.

The USFWS will now likely produce either an "environmental assessment" or an "environmental impact statement" to fulfill its obligation under the National Environmental Policy Act. It will then issue a new "10(j)" rule under the Endangered Species Act that will seek to redefine the parameters of its "experimental" population of wild red wolves in such a way that would give the agency more leeway in disrupting the population. AWI will be closely monitoring this process and will provide updates on the USFWS' actions and our responses as warranted.



KLAUS NIGGE/USFWS

A recent court decision rejects a longstanding DOJ policy that has allowed hunters who kill endangered animals—such as these whooping cranes in Texas—to escape prosecution under the ESA.



LACOMJ

AWI SUES WILDLIFE SERVICES IN NORTHERN CALIFORNIA

On June 21, AWI and allies sued the Wildlife Services program of the US Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) over the program's "Wildlife Damage Management" efforts in northern California. The lawsuit, filed in federal court in San Francisco, seeks an updated environmental analysis of the program's killing of native wildlife.

Wildlife Services reportedly killed 1.6 million target and nontarget animals nationwide last year. Many thousands were killed in California, including a *reported* 3,893 coyotes,

142 foxes, 83 black bears, and 18 bobcats (although actual totals are likely higher). The program continues to use cruel and outdated methods such as steel-jaw leghold traps in California—despite a statewide ban on private use of such devices.

The National Environmental Policy Act (NEPA) requires Wildlife Services to analyze the environmental effects of its efforts to kill predators and other wildlife. NEPA requires supplemental analysis when "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts" emerge.

In northern California, the environmental analysis relied on by the program is over two decades old. The complaint asserts that many scientific studies have since emerged that demonstrate the ineffectiveness of lethal predator control and the efficacy of nonlethal methods to avoid wildlife conflict.

AWI PETITIONS WILDLIFE SERVICES TO END CYANIDE USE IN WYOMING

AWI and a number of conservation and wildlife organizations formally petitioned the USDA-APHIS Wildlife Services program and the Wyoming Department of Agriculture in June for an immediate ban on the use of M-44 cyanide devices in Wyoming. The petition was prompted by recent deadly incidents involving M-44s, including the death of two dogs in the state. One of the dogs had triggered an M-44 while the two were out walking with their respective families. (See *AWI Quarterly*, summer 2017.)

When triggered, M-44s spew sodium cyanide, which reacts with moisture

in the mouth to produce highly toxic hydrogen cyanide gas. The devices lead to the agonizing death of thousands of animals every year, many of them nontarget animals.

Federal law requires Wildlife Services to respond to the petition. A similar petition was filed in Idaho in March, after a 14-year-old boy in that state accidentally triggered a device set near his own house. The boy was hospitalized and his dog was killed. Following this earlier petition, Wildlife Services agreed—for the time being—to remove M-44s from all lands in Idaho.

Ask your representative to cosponsor the Chemical Poisons Reduction Act:
www.awionline.org/chemical-poisons

NAMIBIA ALLOWS GAME FARM TO SELL ELEPHANTS TO DUBAI

The Namibian government has granted an export permit allowing a game farm in the country to take five young elephants away from their families and sell them to a safari park in Dubai. The elephants—reportedly between 4 and 8 years old—are on the property of Eden Game Farm, which is owned by ITTUR Industrier AB, a Swedish company.

Namibia claims that the sale of these elephants is not for commercial purposes and is permitted under the Convention on International Trade in Endangered Species of Wild Fauna and Flora. ITTUR itself, though, appears keenly interested in the commercial benefits. The company filed for bankruptcy twice in the last few years. ITTUR's CEO and chairman, Johan Hansen, reportedly filed for personal bankruptcy in March 2013 and has been implicated in tax fraud, including a tax deduction for a luxury hunting trip, according to the *Namibian Sun*.

YOUNG ACTIVISTS ALL IN ON ANIMAL PROTECTION

IN 2009, when Carter and Olivia Ries of Fayetteville, Georgia, were just 8 and 7 years old, they founded **One More Generation** (OMG) to educate children and adults about the plight of endangered species. They first got interested in starting their own organization after an aunt presented them with adoption certificates for baby cheetahs from a rescue center in South Africa.



Eight years later, OMG is still going strong, and one of a growing cadre of youth-led organizations tackling tough environmental and animal welfare issues. In 2013, after collecting over 10,000 letters from kids around the world asking the South African president to stop black rhino poaching, Carter and Olivia delivered the letters in person to the South African government. Recently, they started the global Pangolin Awareness Art Campaign, to teach K-12 students about threats to pangolin species.

For Will Gladstone, 13, who runs the **Blue Feet Foundation** with his brother Matthew, 10, the spark was learning about extinction in 5th grade science at the Fessenden School in Newton, Massachusetts. He zeroed in on a species he felt deserved to maintain its foothold on this blue planet: the

blue-footed booby. At first, Will didn't know how he could help. "Then one night before bed I was staring down at my feet and it just hit me. I could sell blue socks so everyone could have blue feet and I could use the money to help the bird!" The blue socks have been a hit. Today, all proceeds from sales go to the Charles Darwin Foundation and the Galapagos Conservancy.

Hannah Testa, 14, of Cumming, Georgia, says that "around the age of 10," she watched a documentary called *Plastic Paradise*. "I saw how birds, whales, and sea turtles were dying from ingesting plastic or becoming entangled in plastic. ... I knew I had to do something." She started **Hannah4Change** in 2014 to educate consumers and businesses about the global crisis of plastic pollution. Hannah has presented to thousands of adults and children around the country, as well as to the Georgia governor, on plastic pollution and practical ways people can reduce their plastic footprint.



Lobby for Animals



Blue Feet Foundation



Launching an organization or campaign before one even enters high school may seem daunting. What advice do these young leaders offer? Aidan Bodeo-Lomicky, 17, of Greenville, South Carolina, says budding activists should “find something that makes you want to drop everything and go help it.” For him, it was the critically endangered vaquita porpoise. He launched **V-log** in 2011, a blog with news related to vaquita sightings, poems and facts about the vaquita, updates on gillnet regulations, news related to fishing in vaquita habitat, sustainable seafood promotion, and links to other organizations working to save the animal.

Thomas Ponce, 16, established **Lobby for Animals** in 2013 from his home in Florida to help animal welfare activists of all ages lobby elected officials and take action on issues affecting farmed animals, pets, animals used in entertainment, animal testing, and more. Thomas says preparation is key: “Do your research, formulate a plan and put it into action. Whether it is a campaign or an organization, having a well laid out business plan will definitely help you stay on track.” He adds, “Don’t be afraid to speak up and make your demands heard, politely and intelligently.”

One need not go it alone or go big from the beginning, though. Olivia Ries says that “you can start by finding other organizations in your area that are working on issues that you care about and reach out to them and ask if they would like help.” Hannah Testa offers similar advice: “Partner up with others ... until you build your confidence and knowledge base.”

Will Gladstone cautions to be patient, as well. “We were really frustrated in the beginning because we had socks and a website and sold no socks for three months. We almost gave up but we didn’t know what we would do with all the socks. So we kept trying different things and finally we got orders. Now we’ve

had orders from 48 states and 16 countries!” Their Instagram and Facebook accounts are now filled with photos of customers sporting their blue socks all around the world, including in the presence of blue-footed boobies in the Galapagos.

Several young activists speak of not being taken seriously at first. Carter Ries relates the meeting he and his sister had with Chick-fil-A’s director of sustainability: “At first he was like, ‘Ahh, you guys are so cute, sure I will meet with you.’ Then when we showed up with five concrete ways they could reduce their plastic footprint, he could not wait for the meeting to be over and he has refused to answer a single email or voicemail since. It really is sad... but that hasn’t stopped us from trying to effect change.”

Fortunately, other adults do take these young people seriously and are inspired by their tenaciousness. Josiah Utsch and his friend Ridgely Kelly of Cape Elizabeth, Maine, were 11 when they founded **Save the Nautilus** to call attention to how the shell trade threatens these animals. The boys now raise money to fund the nautilus research of Drs. Peter Ward and Greg Barord. “When I first met them in American Samoa in 2013,” says Dr. Barord, “we had just traveled from a research trip in Fiji that was difficult. Instantly when meeting Josiah and Ridgely, my resolve quickly hardened and they motivated me to continue to work even harder.” Dr. Barord says the boys have “invigorated the nautilus scientific community.” The work has borne fruit: In October 2016, all nautilus species were listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, thereby restricting trade.

Dr. Barord probably sums it up best with respect to all these admirable young leaders and their work: “When it comes to change, age is irrelevant. What is important is to provide opportunities and expose not just younger individuals, but everyone, to what is going on in the world around them. With knowledge in hand, change and action can have significant impacts on the world.” 🐾



V-log



— High School Students Lift Voices to Advocate for Animals —

Each year, AWI, in partnership with the Humane Education Network, holds the “A Voice for Animals” competition. High school students from all over the world are invited to submit essays, photo essays, or videos that examine animal suffering and present possible solutions.

Students answered the call this year with moving entries on behalf of pit bulls and pachyderms, cats and clownfish, bees and birds. Among numerous admirable efforts, the following four claimed the top prizes:

First Prize, Climate Change: “Seeing Scarlet: Saving a Gorgeous Neotropical Migrant,” by Claire Wayner, Baltimore, MD. “Walking through downtown Baltimore at 5 AM with a butterfly net in my backpack, I get odd looks from security guards.” So starts Claire’s essay detailing the perils migratory birds face, including climate change, habitat loss, and (the reason for her early morning urban stroll) window strikes. Claire works with Lights Out Baltimore helping to track window strikes in the city and, where possible, rescue wounded birds, all the while attempting to get building managers to save energy and take steps to prevent additional bird mortality in her hometown.

First Prize, Essay: “When the Powerful Are Crushed,” by Naomi Chongsiriwatana, Los Angeles, CA. Naomi, an American teen living in Thailand, details the brutal treatment of captive elephants there and seeks to educate readers about the reality behind one of Thailand’s most popular tourism draws: elephant camps. “In these camps, foreigners can see elephants play games, watch them paint masterpieces, and ride them. Underneath most of Thailand’s elephant camps’ picture-perfect facades, though, lies a dark, heartbreaking truth.” She describes how baby elephants are torn from their mothers in infancy and broken to a life of servitude via

phajaan, or “the crush.” Naomi encourages tourists to visit and support true elephant sanctuaries instead.

First Prize, Essay with Photographs: “Cozy Condos for Feral Felines,” Olivia Banks, Nottingham, MD. Olivia’s photo essay describes the often-perilous life of feral cats and gives an overview of “trap, neuter, and release” (TNR) programs that deal with feral populations in a humane and effective manner. She describes her own project to construct shelters for feral cat colonies in her area. “These shelters have a dual purpose—not only do they protect the cats from the elements and from other animals, they also provide TNR workers with easy access to the cats, so that they can be identified and given proper medical care.” (Olivia is pictured above with some of her cat condos.)

First Prize, Video: “Save a Baby, Save a Species,” by Myriam Burger, Ridgewood, NJ. In discussing the effect on African elephant families due to poaching, Myriam aptly quotes Dr. Jane Goodall: “It’s not just a species facing extinction. It’s also a crisis of massive individual suffering.” After describing the grief elephants endure, the video introduces viewers to the David Sheldrick Wildlife Trust (DSWT) and its work saving orphaned baby elephants in Kenya. Myriam tells of her own efforts through Fight Against Animal Mistreatment (FAAM), a school club she founded, to raise funds to sponsor an elephant at the DSWT.

Even when they are chronicling dire situations, there is inspiration in the desire of these students to prevent animal suffering and model a better way. We invite you to view the essays, photos, and videos—the ones described above as well as the second and third prize winners, “active involvement” honorees, and honorable mention entries—at www.hennet.org/contest.php. 🐾

NO LONGER GROWING: THE DIMINISHING USE OF rBST

According to the USDA Animal and Plant Health Inspection Service (APHIS), between its peak in 2002 and the most recent survey in 2014, the use of the hormone recombinant bovine somatotropin (rBST) by the dairy industry declined by 36 percent. Driven by consumer demand for “natural” dairy products and a desire by the industry to cash in on the hormone-free marketing claim, the majority of dairy processors are choosing to transition away from the use of growth hormones. Although the dairy industry claims consumers have been misled about the effects of using growth hormones, the European Scientific Committee on Animal Health and Animal Welfare reports that the use of hormones leads to higher incidences of foot pain, mastitis, and injection site reactions in dairy cattle. In a win for animal welfare, and in response to public pressure, Wisconsin—the second largest dairy-producing state—claims it will be 90 percent rBST-free by 2018.

SLAUGHTERHOUSE IN VERMONT VIOLATES HUMANE HANDLING LAWS

Since October 2016, Vermont Packinghouse—a small slaughter facility in Springfield, Vermont—has received four suspensions and over a dozen noncompliance records documenting humane slaughter violations. The plant was issued the suspensions after committing several egregious violations, such as ineffective stunning that resulted in animals regaining consciousness during slaughter. After the fourth suspension, AWI asked the USDA to take further measures against Vermont Packinghouse, including considering withdrawal of the slaughterhouse's grant of inspection. Additionally, AWI communicated with the Vermont agriculture agency, which eventually took action against the plant by assessing penalties totaling \$1,500. The state also placed a condition on Vermont Packinghouse's license to operate. The slaughter plant must arrange to have a qualified, independent third party conduct an audit of the plant's humane handling

program and plan. The plant must prepare a response to the audit and update its written humane handling plan to include recommendations made in the audit. To date, this is the first instance of Vermont imposing penalties under its humane slaughter law.

BIRDS' EYE: TYSON IMPLEMENTS VIDEO WELFARE MONITORING

Tyson Foods recently announced a new welfare initiative for its chicken production. Slaughtering 1.8 billion chickens per year, Tyson is the largest poultry producer in the United States. Likely as a result of consumer interest and outreach from animal advocacy organizations, the company stated it would implement third-party remote video auditing systems in its 33 US poultry plants. The auditing company, called Arrowsight, will review this footage and provide feedback. In addition, Tyson says it will hire nearly 60 full-time animal welfare specialists and launch two pilot programs. The first involves implementing controlled atmosphere stunning (CAS) in two of the company's slaughter facilities. CAS is considered a higher-welfare alternative to the traditional conscious shackling and electrical stunning method that Tyson currently employs. For the second pilot program, Tyson stated it would research the benefits of adding environmental enrichments, such as perches, in its poultry houses. While pilot programs don't necessarily result in widespread implementation, these programs may point towards gradual improvements in farmed animal welfare.

farm animals



KYLE SPRADLEY

Consumer demand for more natural dairy products is causing many in the dairy industry to transition away from the use of bovine growth hormones—a win for animal welfare, as well.



A dog stands atop a frozen water pan at a puppy mill in Iowa.

AWI SHEDS FURTHER LIGHT ON USDA SITE SCRUB

AWI'S latest analysis of the enormous number of vital animal welfare records still missing from the US Department of Agriculture's website reveals that, following the *Contender Farms v. USDA* lawsuit involving plaintiffs associated with the Tennessee Walking Horse industry (see *AWI Quarterly*, spring 2017), the USDA still has not restored inspection reports covering 94 percent of the 3,333 active breeders and dealers that supply animals to the pet trade and, in some cases, research labs.

On May 26, *Science* magazine published an article based largely on this analysis, conducted by AWI's Eric Kleiman. He also provided *Science* with two primary examples of the USDA removing records pertaining to well-established suppliers to research: Thomas D. Morris Inc. and Eugene Burkholder. Both are routinely listed on lab animal supplier sites, and both have been accused by the USDA of violating the Animal Welfare Act (AWA).

On September 16, 2013, the USDA issued an official warning letter to Thomas D. Morris Inc., a Maryland animal dealer that sells to US government and academic scientists. During July and August 2013, inspectors alleged failures to provide adequate veterinary care and shelter from inclement weather, noting 15 unshorn sheep penned in a sweltering building, a group of calves and sheep with no shelter at all, a goat and a lamb that were lame, and another goat with an egg-sized swelling on his shoulder. The USDA warned the firm (which had \$5 million in revenue that year) that future violations could result in fines or criminal prosecution.

On October 2, 2015, the USDA issued a warning letter to Eugene Burkholder, an individually licensed breeder who does business as Oak Hill Genetics, which also supplies animals to US government and academic scientists. Burkholder has stated that his

operation produces 500 newborn pigs each week. Six separate inspections in 2014 and 2015 alleged that Burkholder failed to provide adequate veterinary care, observe animals daily, assess their well-being, and communicate animal health problems to a veterinarian. Inspectors reported observing a pig with a bloody tail stump; mother pigs with leg injuries; multiple piglets with facial injuries, open sores, and thick brown crust on their faces; and numerous animals with abscesses, including one that had ruptured.

Why is the USDA so blatantly hiding its rationale for scrubbing the site—even going so far as to completely black out 1,771 pages of relevant records requested by media organizations? (See *AWI Quarterly*, summer 2017.) Last August, the USDA's Animal and Plant Health Inspection Service (APHIS) stated that the searchable database "has been a valuable resource for thousands of people." Six months later,

the USDA eradicated the database. In April, the head of APHIS filed an affidavit with a California court expressing concern that the previously online records might “contain personal information implicating the privacy interests of individuals and closely held businesses.” According to the IRS, however, over 90 percent of businesses in the United States are closely held.

A May 19 APHIS bulletin indicated that the department continues to withhold “inspection reports for regulated entities licensed/registered as individuals or homestead businesses.” What is a homestead business? APHIS doesn’t say. Would Thomas D. Morris Inc. and Eugene Burkholder—who have received over \$4.4 million in direct government contracts to supply research animals to various federal agencies over the past 10 years—qualify?

AWI’s analysis of what still remains offline points to another huge issue: missing inspections of puppy mills/commercial dog breeders. In April, the Associated Press published an article regarding the site scrub’s key ramifications for consumers wishing to determine if dogs bred in Missouri are coming from “humane dog breeders or callous operators of ‘puppy mills.’” As the AP reported, “Missouri farms raise an outsized share of the country’s dogs, selling more than 100,000 a year.” Of the 706 breeders the USDA lists as active in Missouri, inspection reports for just five are currently online.

The USDA has also failed to include animal inventories with its inspection updates for the last few months. After its initial upload of inspection reports, the department has withheld inventories in subsequent updates, carefully stating that “information regarding” animal inventories will at some point be restored. This “information regarding” language could mean that actual inventories may never be online.

The importance of these inventories cannot be overstated. The unexplained disappearance of over 5,000 goats and rabbits from Santa Cruz Biotechnology (SCBT)—after a series of adverse inspections and formal complaints involving goats and rabbits at SCBT—was documented in a January 2016 inspection. This resulted in a February 19, 2016, *Nature* article that AWI believes profoundly affected the USDA’s groundbreaking case against the lab. (See *AWI Quarterly*, spring 2016.)

In the past, the USDA issued press releases touting its enforcement actions relating to both the AWA and the Horse Protection Act, naming individuals as well as businesses and providing the records of actions taken. The USDA issued the last such release on August 16, 2016.

The *Contender* plaintiffs ended up dismissing their own lawsuit. Small wonder. One of the plaintiffs stated they felt it was “best to dismiss the complaint” since “we have achieved the primary objectives in the lawsuit.”

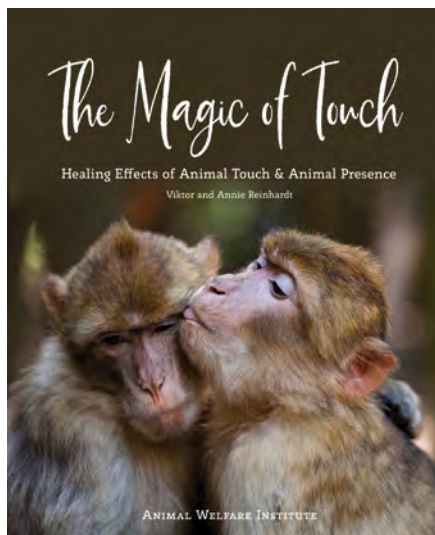
For its own part, the USDA, while claiming on February 7 that it was

“vigorously defending” against “this litigation” (without directly naming the *Contender* lawsuit), never even filed an answer in the lawsuit. Moreover, despite no court order, decision, or settlement, the USDA stopped posting enforcement actions in August 2016 and completely scrubbed its website of inspection reports and other animal welfare records in February 2017. Yet, other agencies—including the Securities and Exchange Commission and the Food and Drug Administration—routinely publish information about companies and individuals who are alleged to have violated federal law. FDA warning letters online are archived back to 2005.

Though the USDA has repeatedly given lip service to “transparency,” its actions constitute the exact opposite—continuing to hide crucial records and thumbing its nose at accountability and the law. AWI will continue to fight for release of these enforcement actions, inspections, and inventories that have proved so vital in both pressuring the USDA to enforce the AWA and sending the message to potential violators that animal abuse will not be tolerated or hidden. 🐾



An undercover investigator reported that this champion walking horse was lying in his stall at ThorSport Farm in Tennessee, moaning in pain after having illegal chemicals slathered on his legs.

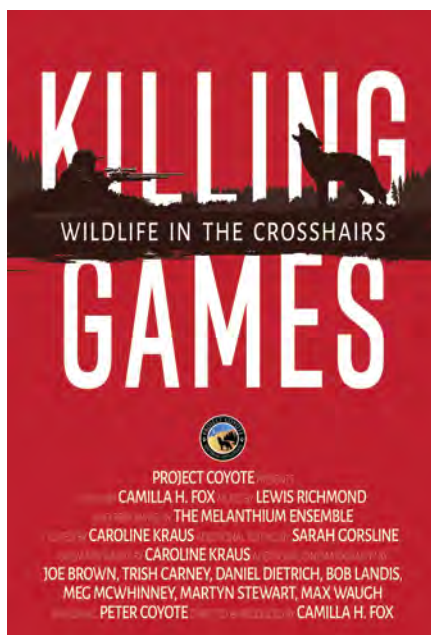


THE MAGIC OF TOUCH

Viktor and Annie Reinhardt / AWI / 81 pages

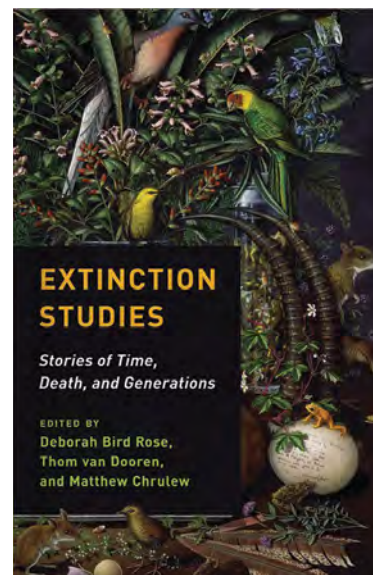
Placing rats in an open field increases their level of the stress hormone prolactin. There is something, however, that can temper this stress response: the ability to touch another rat. Captive chimpanzees groom each other prior to dinnertime, evidently as a balm against potential food-related aggression. A nurse learned early on “that a reassuring touch could calm anxiety and get someone through a frightening procedure.”

Intriguing studies and arresting anecdotes fill the pages of the new second edition of *The Magic of Touch: Healing Effects of Animal Touch & Animal Presence*, by Viktor and Annie Reinhardt. Viktor and Annie share many decades of keen animal observation and ethological research. (For many years, Viktor was a laboratory animal advisor and Annie an information specialist for AWI. Viktor now serves on our scientific committee.) Their beautiful book, with its scientific evidence and heartwarming photographs, delves deeply into the critical role of physical contact in the lives of social animals, including humans.



The effect is not limited to same-species interactions. Dogs and other animals are often engaged to ease the depression and anxiety of people who have suffered traumatic life events; companion animals can make emotionally challenging tasks easier and medical procedures less scary. Humans can have the same effect on other animals—and this fact can have profound implications for animals in research, who are often subjected to bewildering, anxiety-producing procedures. Friendly physical interactions with humans in such settings can have a powerful calming effect.

AWI offers one free copy of this book to individuals at research institutions. To obtain your free copy, please visit us online at www.awionline.org/magic-touch.



KILLING GAMES

2017 / Camilla H. Fox / 60 minutes

Killing Games: Wildlife in the Crosshairs, a new film produced and distributed by Project Coyote (with some support from AWI), serves as an overview of wildlife killing contests:

what they are, why they need to be prohibited, and how humanitarians can take action to try to stop them. Ranchers, Native Americans, and scientists are among those providing details about this inhumane, indiscriminate, and unethical activity, in which predators such as coyotes, wolves, bobcats, and foxes are targeted, with an award going to those who shoot and kill the most animals. There is neither regard for the intrinsic value of the individual animals nor a concern about the important role predators play within ecosystems.

The film contains striking panoramas and beautiful images of wildlife juxtaposed with innumerable bodies of animals that have been killed. Contest hunts, like bounties, should be shelved as an embarrassing relic of a barbaric period in American history when all predators were viewed as problems in need of extirpation.

EXTINCTION STUDIES

Deborah Bird Rose, Thom van Dooren, and Matthew Chrulew / Columbia University Press / 256 pages

A recent report published by the National Academy of Sciences warns of impending massive extinctions if corrective response is not initiated very soon—a sober indicator of the pertinence of this new collection of insightful essays.

Extinction Studies: Stories of Time, Death, and Generations is a somewhat eclectic repertory, with each author providing a unique perspective of extinction, examining anthropological, literary, psychological, and moral implications, among others. James Hatley's work on ōkami, the extinct Honshu wolf, uses elegant prose to plead for the importance of protecting natural habitats as a key to preventing species extinctions. His essay evokes a haunting melancholy while leading the reader through tasteful haiku verse and the cultural impacts of this animal's extinction.

Matthew Chrulew's piece on the golden lion tamarin is less subtle, offering sharp judgments of hard-science wildlife reintroduction projects that deny their beneficiary species a modicum of animal welfare. In this case, tame zoo-born

tamarins were released into a challenging Brazilian jungle with hardly any preparation or support. Not surprisingly, there was a very high mortality rate. Chrulew characterized the initiative as "lurching headlong into the wild with its salvific urgency and cutting-edge naivety."

Chrulew posits that life in the wild is much more than the mere passage of DNA from one generation to the next. Rather, wild animal communities are repositories of skills, knowledge, and customs that are passed from one generation to the next and that "this cultural transmission is interrupted in crucial ways in captivity."

As Thom Van Dooren's essay on the extermination of Hawaii's spectral crows argues, life is a matrix of biocultural inheritances. We are part of a "co-becoming" in which genes and ideas, culture and language, are all part of a rich inheritance. From this perspective, the extinction of a species is much more than the permanent loss of a particular arrangement of DNA.

With mathematical precision, he recites the numbers: There were 113 species of birds known to have lived exclusively in Hawaii when humans first arrived on those islands. Today, only 42 survive. Of those, 31 are now under the protection of the Endangered Species Act because they are at risk of extinction. Only 11 of 113 are not endangered or extinct. Nevertheless, there is still a vocal and influential group that resists setting aside about 20 percent of a forest area for these birds because it would interfere with their "tradition" of hunting feral pigs.

If there are callous people who are indifferent to this developing catastrophe, there are also many others who are engaged, and participate in efforts to protect these animals from extinction. Deborah Bird Rose, in her essay, interviewed volunteers who protect monk seals. She asked them why they volunteered. But those volunteers commonly declined to justify their efforts, or responded simply "because I can." Rose surmises then that protecting endangered animals is a sentiment that flows from deep within the human psyche. It is motivated by much more than simple rationality.

And perhaps that is the hope for averting the impending mass extinction.

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, DC, 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.



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REFINEMENT GRANTS AVAILABLE TO IMPROVE LABORATORY ANIMAL WELFARE

AWI is dedicated to improving the care, housing, and handling of animals in research facilities. From our earliest days, we have encouraged laboratory personnel to provide animals with comfortable housing and the opportunity to engage in species-typical behaviors, while sparing them needless suffering. For this reason, AWI is offering grants of up to \$8,000 to develop and test innovative methods of refinement and/or environmental enrichment to improve the welfare of animals in research. Additional funding of up to \$500 may be provided, upon request, to defray travel costs for presentation of accepted abstracts or talks at national meetings. The deadline for applications is December 11, 2017. Further information and links to the online application are available at www.awionline.org/refinementawards.

In addition, AWI congratulates the most recent Refinement Grant recipients:

→ **Angelika Rehrig**, University of Rochester, "Assessing Food Preference and Reinforcer Effectiveness in Laboratory Macaques: A Refinement for Positive Reinforcement Training." Using a multiple stimulus without replacement ("MSWO") preference assessment to identify food preference hierarchies for primates.

→ **Bret Tallent**, University of Arizona Phoenix, "Reducing Aggressive Behavior in Mice with the Addition of Cage Dividers." Seeking a means to reduce aggression in male mice housed in a group by using custom-built partial dividers and examining their effectiveness under various mouse densities.

→ **Debra Hickman**, Indiana University, "Use of Voluntarily Ingested Oral Sedatives to Ease Anesthesia Induction in Rodents." Evaluating compounds used in human pediatric anesthesia to determine their effectiveness in inducing pre-anesthetic sedation.

→ **Brianna Gaskill**, Purdue University, "Development of an Efficient and Effective Protocol for Playfully Handling Rats." Determining the most efficient combination of play frequency and duration to habituate rats and make handling them easier and nonthreatening.

→ **Eric Edsinger**, Marine Biological Laboratory (Woods Hole, MA), "Modulating Enrichment to Reduce Stress and Increase Day-Activity in Lab-Cultured Octopus." Providing modulated enrichment just after hatching to make octopuses more relaxed, curious, and active during the day to reduce stress during behavioral research. 🐙

