

AWI Quarterly

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A MESSAGE FROM THE PRESIDENT OF AWI

Dear Members and other friends of AWI:

As you know, coronavirus (COVID-19) is spreading around the globe, and the human species is facing a pandemic unlike any the vast majority of us have endured in our lifetimes. As a society, we will get through it, but many lives are being lost and most lives have been turned upside down.

At AWI, we have made changes in our operations to ensure the safety of our staff and consultants, such as suspending all travel and implementing telework from our homes. Though where we work and how we conduct that work has changed, please know that our efforts on behalf of animals continue in earnest. Our Government Affairs team continues to have meetings (via phone) regarding important animal welfare items before Congress—such as demanding greater accountability from the US Fish and Wildlife Service with respect to trophy hunting import permits and procuring

additional funding for implementation of vital animal welfare laws such as the Endangered Species Act and the Humane Methods of Slaughter Act. AWI's Dr. Naomi Rose and her co-editors are preparing the *State of the Cetacean Environment Report* for the Sub-Committee on Environmental Concerns of the International Whaling Commission's Scientific Committee. AWI's Regina Terlau is working with consultant Nancy Brown to produce comprehensive teachers' guides and lesson plans to be used in concert with AWI publications. These are merely a few examples of how we remain focused on our mission despite the disruption.

On behalf of the board of directors and staff at AWI, we wish you and yours good health, patience, understanding, and compassion. Please take care of yourselves and carefully follow the guidance of healthcare professionals as we all attempt to navigate these deeply unsettling waters.

Sincerely,



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ABOUT THE COVER

After grizzly bears were nearly eradicated from the contiguous United States, protections afforded the species under the Endangered Species Act (ESA) have helped boost bear numbers. The ESA and other vital environmental laws protect both wildlife and human communities. Alarming, the Trump administration has been waging war on these laws, nullifying them not by legislative repeal but by regulatory rollbacks—making sure they can't be enforced as intended. Turn to page 14 for more on this distressing assault and why we, the public, must fight back. Photograph by Marc Latremouille.

RENNETT STOWE



ANIMALS PROTECTIONS INCLUDED IN APPROPRIATIONS PACKAGE

The fiscal year 2020 appropriations bills finalized in December included a number of victories for animals: On the marine side, \$3 million was allocated for research and monitoring of the gravely imperiled North Atlantic right whale, and funding will continue for research on methods to reduce sea turtle bycatch and for sea turtle stranding and rehabilitation programs.

The Rescuing Animals With Rewards (RAWR) Act was included in the package—empowering the State Department to offer financial rewards in exchange for information that leads to the disruption of wildlife trafficking networks. Meanwhile, the US Fish and Wildlife Service will reassess its current policy of evaluating applications to import sport-hunted elephants and lions on a case-by-case basis and will consider ways to assist exporting countries with conservation programs that don't involve the slaughter of imperiled species.

Provisions were included that will effectively bar horse slaughter facilities from operating this year in the United States, and will prevent the Bureau of Land Management or the US Forest Service from selling off wild horses for slaughter abroad (an important measure given the USFS's recent efforts to remove restrictions on slaughter of wild horses—see *AWI Quarterly*, spring 2019).

The Protecting Animals with Shelter (PAWS) grant program was allocated \$2 million to make additional resources available to better assist domestic violence survivors and their companion animals. Provisions were included to bar the US Department of Agriculture from licensing dealers who sell randomly acquired dogs and cats for use in experiments. Regarding farm animals, the USDA will work with producers to develop disaster plans to prevent injuries and deaths to such animals during extreme weather events (see page 13 for details).

A particularly crucial provision in the appropriations legislation addressed the USDA's abysmal performance with

respect to the Animal Welfare Act (AWA) and the Horse Protection Act (HPA). Three years ago, the USDA abruptly purged its online database of inspection reports for breeders, dealers, exhibitors, research facilities, and other entities subject to government oversight. (See *AWI Quarterly*, spring 2017.)

AWI worked with media to publicize this purge and the department's drastic curtailment of enforcement activities. We joined others in asking Congress to require restoration of the data. Congress responded emphatically, directing the USDA to return the missing AWA and HPA inspection and enforcement documents and resume publishing reports online. Those reports—involving an estimated tens of thousands of documents—started to reappear in mid-February, with the assurance that more would be posted within 60 days.

PAW & FIN CONSERVATION ACT INTRODUCED

In August 2019, the US Fish and Wildlife Service and National Marine Fisheries Service finalized three regulatory changes to the Endangered Species Act (ESA) that drastically undermine this crucial conservation law. In response, Representative Raúl M. Grijalva (D-AZ) and Senator Tom Udall (D-NM) introduced the Protect America's Wildlife and Fish in Need of Conservation Act (PAW and FIN Conservation Act), which would repeal these crippling regulations. AWI helped organize a Capitol Hill briefing on the bill in November 2019. The PAW and FIN Conservation Act passed the House Natural Resources Committee in January and now awaits action in the full House. To urge your members of Congress to support the bill, please visit this link: www.awionline.org/compassion-index#/311.

DC SET TO BAN IVORY AND RHINO HORN SALES

A bill to restrict the sale of ivory and rhino horn in the nation's capital is poised to pass the DC Council and head to Mayor Muriel Bowser's desk. A 2017 study by TRAFFIC found that the DC area had more ivory items for sale than any other metropolitan area surveyed, surpassing cities such as New York, San Francisco, and Los Angeles that used to dominate the ivory market.

While federal law currently prevents the import/export of and interstate commerce in elephant ivory, it does not and cannot address the trade within an individual jurisdiction's borders. Passage of Bill B22-0314 would establish Washington, DC, as a leader in the fight against wildlife trafficking, together with California, Hawaii, Illinois, Nevada, New Jersey, New York, New Mexico, Oregon, and Washington—all states that have enacted laws to restrict or ban the sale of ivory and rhino horn within their borders.

MARYLAND COUNTY POISED TO CURTAIL BALLOON RELEASES

Although an in-person hearing was canceled, AWI staff provided testimony to the Montgomery County Council in March in support of Bill 6-20. The bill, sponsored by Council Member Tom Hucker, prohibits the intentional release of balloons in the county. While it may seem like a harmless celebratory gesture, the release of latex and Mylar balloons threatens both animals and humans. For animals, contact with balloons or balloon fragments can have lethal consequences; in fact, they are considered to be one of the top five most dangerous forms of marine pollutants, ensnaring or choking animals such as turtles and birds. In addition, balloons, particularly metal-

coated Mylar balloons, can damage human infrastructure, resulting in power outages and fires. In San Diego, for example, a transformer overloaded and exploded after its neighboring power lines became entangled with a cluster of released Mylar balloons. In Montana, a Mylar balloon ensnared in a power line set off the Saddle Butte fire, which destroyed 255 acres.

Further action on the bill was postponed due to the coronavirus. Should it pass, Montgomery County, Maryland, will join the growing number of jurisdictions across the nation taking action to protect animals, the environment, and human infrastructure by ending the communal threat of balloon releases.

VIRGINIA BILL WOULD PROHIBIT PUBLIC CONTACT WITH WILD ANIMALS

As we go to press, a bill to address the exploitation of tiger cubs and other captive wild animals awaits Virginia Governor Ralph Northam's signature.

SB 1030 would prohibit public contact with dangerous wild animals such as bears, most big cats, and nonhuman primates. Allowing the public to have direct contact with exotic animals is dangerous and exploitative. Many young animals used for petting, photo ops, or other direct public contact are taken from their mothers as infants. These vulnerable babies with weak immune systems are forced to endure the stressful conditions associated with rough and excessive public handling, as well as physical abuse from handlers attempting to keep them under control. When the animals outgrow their usefulness to the petting zoo, they are typically funneled into the exotic pet trade, sent to another shoddy roadside menagerie, or killed. The Virginia legislature is to be commended for passing this bill, and we are hopeful it will return to this issue and add elephants to the animals that would be protected.

A bill to ban cub petting operations and some other forms of public contact with wild animals has passed the Virginia legislature.



WHALING IN DECLINE:

Dr. Holt's Dream Fulfilled

JAPAN'S whaling underwent some dramatic changes in 2019, following that nation's departure from the International Whaling Commission (IWC) after more than six decades of membership: Japan finally ended the pretense that it was conducting "research whaling" in Antarctica and on the high seas of the North Pacific, terminating its longstanding industrial whaling operations in those regions. It will now pursue openly commercial whaling operations within 200 miles of its shoreline, and target fewer whales (under 200 in 2020 versus 640 in 2018).

In reality, very little has changed, however, as Japan's research whaling was always commercial in nature, with the "byproducts" of the research (meat and blubber) sold onto the domestic market to pay for the following year's hunt. But the operation was never close to profitable and for decades has relied on massive government grants and subsidies to keep the fleet operational. Whaling's ongoing dependence on government intervention was confirmed in early 2020 when the Ministry of Fisheries secured exactly the same whaling budget for 2020 as it spent in 2019 (about US\$50 million), even though its overhead will be far lower this year without

the long-distance hunts and the costs of conducting research, although some studies will continue.

Government officials insist that the massive public subsidies are temporary and that whaling will become a truly competitive private business. But given the dwindling market for whale meat in Japan, financial independence is clearly impossible in the short to medium term, and being weaned from the public trough is probably the last thing the special interests that benefit from the longstanding subsidies want. So, for at least the foreseeable future, Japanese whaling will be funded by a government that is heavily involved in every level of the operation, from setting quotas to promoting whale meat recipes. In the long term, though, it is hard to see how Japan's whaling can ever be economically viable.

Iceland's fin whaling industry is also artificially supported (mainly by a single wealthy individual) and has stockpiles of unwanted whale meat, thanks to the same inexorable decline in consumer demand. To recoup some return on its investment, Iceland exports thousands of tons of meat and blubber to Japan, where it typically sells for less than



Japan's own whale products and often ends up in low-value cans. Domestic consumption of minke whale meat in Iceland has also plummeted, and the owner of the lone remaining minke whaling vessel indicated in 2019 that he could not turn a profit on whaling. Last year, for the first time since 2002, no whales were hunted in Iceland even though the government had issued permits that would have allowed up to 500 to be killed.

Declining demand is also driving changes in Norway. Its domestic market for whale meat is so diminished, its whalers are only removing the most valuable cuts of meat from carcasses and dumping the rest at sea. Last year, they killed 429 whales—one third of the annual quota and the lowest number killed since 1996. As with Iceland's minke whalers, profit margins are problematic, and many vessel owners have turned to fishing instead. Of the 21 whaling boats in 2009, only 12 participated in the hunt in 2019. Even at this reduced level of operation, and despite government-funded promotional campaigns, Norway, like Iceland, also has a surfeit of whale meat and is looking to the bigger consumer base in Japan for relief. One Norwegian whaling company has even established a branch in Japan and exported 200 metric tons of whale meat and blubber last year, equivalent to about 100 minke whales.

The obvious reality is that whaling is not a viable industry and whale watching would be a far more lucrative business for each of the whaling nations, a fact already proven in Iceland, where whale watching revenues far exceed those from whaling. Even in Japan, the number of people taking whale-watching trips more than doubled between 2008 and 2016, to nearly 234,000 people.

This economic reality was the enduring hope of a champion of the anti-whaling movement, Dr. Sidney Holt, who died in late December—still active in policy and scientific discussions at 93 years old.

Sidney began his seven-decade career in the 1950s as a fisheries biologist. He co-authored *On the Dynamics of Exploited Fish Populations* in 1957, a groundbreaking textbook on fisheries management. He spent decades working for the UK government, the UN Food and Agriculture Organization (FAO) and the UN Educational, Scientific and Cultural Organization (UNESCO), but his life changed forever in 1961 when, after being directed by the FAO to serve on a new three-person committee established to advise the IWC's Scientific Committee on how to ensure sustainable whaling in the Antarctic, he discovered his passion for whales. Although he quickly realized that the crisis of overhunting was not limited to the Southern



Sidney (right) with long-time colleague Dr. Paul Spong of OrcaLab at the 2016 meeting of the International Whaling Commission in Portorož, Slovenia.

SUE FISHER

Ocean and whales worldwide would not survive without a total ban on commercial whaling, the early conservation measures he helped to develop unquestionably saved several species and populations of whales from extinction.

By the early 1980s, and after the hugely successful “Save the Whales” campaign, spearheaded by AWI, the majority of whaling nations finally accepted that commercial whaling had to end. The groundbreaking proposal for a global ban was not only co-authored by Sidney, it was presented by the government of the Seychelles, whose delegation he led. Sidney was also ahead of his time in recognizing the value of well-regulated whale watching, especially for former whaling nations, and he was instrumental in the effort to get its value recognized by the IWC. Almost four decades later, whale watching is a multibillion-dollar industry worldwide, and the IWC is working with a range of other intergovernmental organizations, member governments, scientists, the whale-watching industry, and NGOs to understand and manage its potential impacts on individual whales and whale populations.

Sidney's deepest wish—to be outlived by the whales he loved—was fulfilled; the whaling moratorium remains in place after nearly 40 years, most whale populations are recovering, and demand for whale meat is in steep decline. As Sidney's colleagues at AWI and around the world continue to work toward the goal he didn't live to see—an end to all commercial whaling—we are grateful for his unrivaled years of service to the oceans and will miss his long friendship. 🐋

RIGHT WHALE BIRTHS THIS YEAR A POSITIVE SIGN FOR SPECIES

The past three years have been devastating for the critically endangered North Atlantic right whale. Only 400 individuals of the species are thought to remain. Since 2017, over the course of three right whale calving seasons in US and Canadian waters, there have been only 12 births (less than one third the average) and 30 deaths. There is hope, however, that the current season may signal a reversal of this trend. As of mid-February, 10 new calves had been sighted by researchers, with calving season, which runs from December through March, still underway.

Individual right whales can be identified based on a whale's pattern of callosities—raised patches of skin on the head, jaw, and eyebrows that are as unique as fingerprints. Based on such identifications, researchers know that a number of the right whale mothers this year are not new moms. Echo, a 24-year-old right whale, was

spotted with a new baby—her third—off the coast of Florida. Arrow (18) has given birth for the second time, while Palmetto (31) has had her fifth calf.

One 2020 whale mother is especially well known to researchers. Born in 1992, Calvin was orphaned at eight months when her mother was killed by a ship strike. Named for the character in the Calvin and Hobbes comic strip, her personality has been described as spunky and pugnacious, and she survived her own brush with death when she was disentangled from fishing gear in 2000. Calvin has been sighted this year with her fourth calf, another symbol of hope for her species.

SHARK FIN SELLERS FOILED IN FLORIDA, TEXAS

US Fish and Wildlife Service officials seized 18 boxes of dried shark fins at PortMiami in late January. The shipment, estimated to be worth up to \$1 million, was believed to have originated in South America and was

en route to the Far East, to be turned into shark fin soup and other products.

Shark finning is cruel. Animals are captured, finned—usually while still alive—and then tossed overboard to slowly and painfully die. The fin trade is also responsible for an estimated 73 million shark deaths per year, which is devastating global shark populations and marine ecosystems.

While many US states ban the possession and/or sale of shark fins, Florida currently does not. In this case however, the shipment contained fins from protected species, so law enforcement authorities were able to make the seizure after the fins were sampled and tested. A bill to ban shark fin imports has passed the Florida legislature and is now awaiting signature by Governor DeSantis. AWI is advocating for its passage.

Texas, meanwhile, does have a shark fin trade ban, in place since 2016. Since the ban came into force, AWI has routinely provided Texas officials with information on restaurants in the state that continue to serve shark fin. Recently, a tip from AWI prompted Texas officials to investigate, resulting in the conviction of at least one restaurant owner and the still-ongoing prosecution of several other Texas establishments.

AWI is currently conducting its annual audit of restaurants serving shark fin, including in states where there is a ban, and we will continue to provide law enforcement officials with information on restaurants ignoring such bans.



Shark fins seized by US Fish and Wildlife Service officials from a ship docked at PortMiami.



This dead dolphin, found off Naples, appears to have been shot with a gun or speargun. Within the past year, three dolphins have been found stabbed or shot to death along Florida's Gulf Coast.

AWI OFFERS REWARD FOR INFO ON DOLPHIN KILLINGS

At least three dolphins were brutally killed within a year, and AWI is supporting the efforts of local authorities to bring those responsible to justice.

In late January 2020, a dead dolphin washed up in Naples with a large hole near the animal's mouth that appeared to have been caused by a bullet or sharp object. A necropsy on another dolphin found in late January, this time in Pensacola, revealed a bullet in the animal's left side. In May 2019 a dolphin found off North Captiva Island had been pierced in the head by a spear-like object.

AWI marine consultant Courtney Vail is in communication with local authorities, and when she heard about the latest incident asked them how AWI could help. The answer was to offer a reward for information leading to the conviction of the culprit or culprits. The National Marine Fisheries Service (NMFS) had already put up \$20,000;

AWI offered to add another \$5,000 and is hopeful that others will follow suit.

These incidents are perhaps all the more disturbing because NMFS believes at least two of them may have occurred after the dolphins approached humans thinking they might have food. It is illegal to feed wild dolphins, but some people persist, thinking they are helping the dolphins, or because they want to get closer to the animals. When people feed dolphins, it makes them less wary of humans. NMFS postulates that in two of the recent cases, where there were injuries to the face, the culprits took advantage of the dolphins' friendliness and used it to lure them close enough to attack and kill them. The dolphins were likely facing their attacker, mouth open, expecting food.

AWI urges readers to keep your distance when encountering dolphins and to report any individual you see approaching them too closely. If you have information about the recent Florida cases, please let us know or contact NMFS Southeast Regional Office at (727) 824-5301.

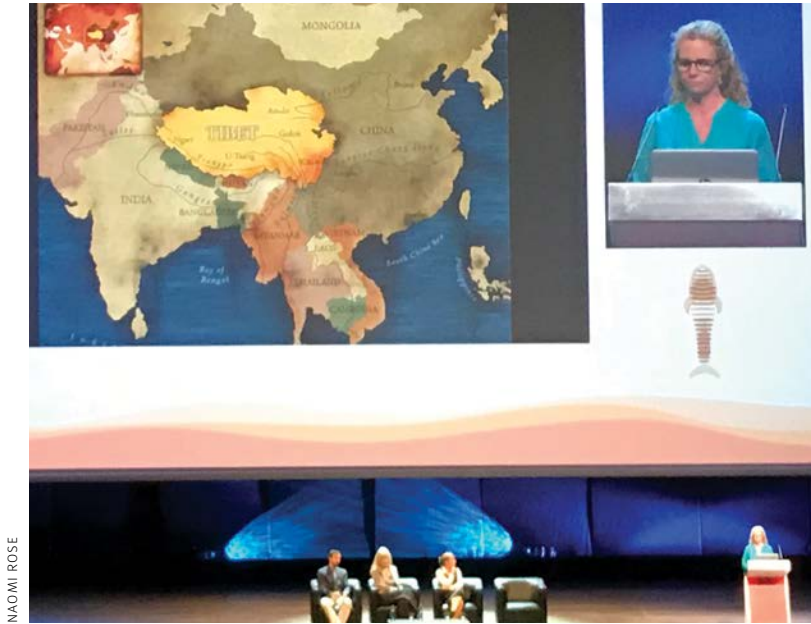
SOLAR STORMS IMPLICATED IN SOME GRAY WHALE STRANDINGS

Solar storms eject high-energy particles from the sun, which stream toward Earth and disrupt communications systems and the planet's magnetic field. Researchers at Duke University and Chicago's Adler Planetarium, reporting in *Current Biology*, believe these storms may cause some migrating gray whales to strand.

Scientists don't entirely understand how gray whales accomplish their massive navigational feat between Alaska and Mexico each year, but think the whales may be guided by Earth's usually reliable magnetic field. The Duke and Adler researchers studied 31 years of stranding data and found that strandings were over four times more likely when radio frequency noise from a solar outburst bombarded the Earth. The study authors suspect that the problem isn't that the increased radio frequencies throw off the whales' internal compass readings, but that the sudden burst of frequencies overwhelms and effectively shuts down the whales' navigational system altogether.

The researchers state that their findings aren't conclusive evidence for magnetoreceptive sensors in whales, but their study does point to the likelihood that gray whales depend on some type of magnetic sense for their incredible navigational abilities.

Solar storms are not the only reason that gray whales strand, however. Disease, malnutrition due to lower abundance of prey, and human activities such as the use of active sonar can also cause strandings.



NAOMI ROSE

Dr. Gill Braulik gives a plenary presentation at the World Marine Mammal Conference in Barcelona on river dolphins facing climate change.

Marine Mammal Conference Sounds Alarm, Highlights Positive Actions

In early December 2019, more than 2,700 marine mammal scientists, policymakers, students, and activists, as well as journalists and others interested in the latest marine mammal science developments, gathered from 95 countries in Barcelona, Spain, to attend a joint meeting of the Society for Marine Mammalogy and the European Cetacean Society.

At the conference, AWI's Dr. Naomi Rose participated in a workshop on captive marine mammal welfare, presented a poster on chronic stress in captive orcas, and served as a judge of scientific posters and talks. AWI's Kate O'Connell participated in a workshop on improving collection of data on fishing gear entanglement, co-presented a poster on bycatch and the foreign import provisions of the US Marine Mammal Protection Act, and gave a talk on vaquita conservation efforts.

A sobering message from plenary speaker Dr. Kit Kovacs of the Norwegian Polar Institute opened the conference. She noted that a third of marine mammal species across the globe are listed as vulnerable, endangered, or critically endangered by the International Union for Conservation of Nature (IUCN), and that many species are facing multiple stressors, such as habitat loss due to climate change, hunting, pollution, and entanglement in fishing gear.

Bycatch in fishing gear was the focus of numerous conference sessions. More than 650,000 marine mammals die annually because of entanglement, making it the leading cause of human-induced mortality. Of the 13 populations of small cetaceans listed as critically endangered by the IUCN, 11 are facing extinction due to gillnet fishing gear, including the vaquita (whose population has dipped below 20) and the Māui dolphin (with an estimated population of 63).

Dr. Mervi Kunasranta of the University of Eastern Finland spoke about innovative efforts to save the Saimaa ringed seal from the impacts of climate

change on its breeding habitat. Her plenary talk was inspiring and won an audience appreciation award for showing that sound science can inform successful conservation actions even when the challenges facing the animals are considerable.

In addition to the nearly 2,000 poster sessions and talks, the conference offered a number of workshops, where experts led in-depth discussions on a wide range of subjects. The workshops helped introduce a new generation of students to the field. They also allowed differing points of view—for example, on the welfare of marine mammals in captivity—to be expressed constructively.

Novel technological approaches to studying animals who live much of their lives at sea also featured prominently. Dozens of talks and posters described the use of drones as a helpful tool for counting animals, photo-identifying individuals, and even collecting breath samples—which can provide information on, among other things, genetics, stress, and pregnancy status. High resolution satellite imagery is also being used to detect large whales from space, identify species, count pinnepeds who are out of the water, and track migration patterns.

Attendees were given the opportunity to sign the Barcelona Declaration, in which they promised to “inspire and motivate the public to protect marine mammals and the environments they inhabit” and to engage with policymakers to provide the best available science to help ensure successful conservation efforts. Despite the mounting pressures facing marine mammals, the passion and dedication of the conference's participants provide hope that solutions to these threats will be found. 🐾



HAWAII AGREES TO REGULATE LIVE ANIMAL SHIPMENTS

THE perils of overseas animal transport were recently underscored when 21 cows perished on a barge traveling from Honolulu to Kauai. While the animals were inspected at the port—per Hawaii regulations for preventing the transmission and introduction of diseases—no inspections were made to ascertain whether the barge or the containers the animals were in were suitable for transporting animals. Unfortunately, the containers holding the animals were placed too closely together, limiting ventilation and causing the cattle to slowly die of suffocation during their journey. Simple precautions could have prevented the prolonged suffering endured by these animals.

Following this tragedy, lobbying efforts by AWI and Animal Rights Hawai'i helped convince the Hawaii Department of Agriculture (HDOA) to commit to amending its regulations to include standards for the care of livestock shipped by sea vessel. The new animal transport regulations should help keep such grim incidents from happening again.

Shipments of live animals from the United States to foreign countries are subject to federal regulations requiring an assessment of the animals' fitness to travel and adherence to basic standards concerning the suitability of vessels. These changes were the direct result of a rulemaking petition submitted by AWI and the World Society for the Protection of Animals (now World Animal Protection) in 2011. The petition was largely premised on ensuring US compliance with international standards for animal export set by the World Organisation for Animal Health.

However, the federal standards do not apply to interstate or intrastate shipments. It is critical, therefore, that states step up to make sure that the animals are protected during these trips. Even short trips can present serious welfare risks for animals, and sometimes animals on interstate voyages—in particular, voyages from the mainland to Hawaii—will travel distances that far exceed those of some international routes. For example, a trip from California to Hawaii can exceed 2,500 miles, whereas an international journey from Florida to the Caribbean could amount to less than 1,000 miles. There are currently zero laws to ensure that animals on these interstate voyages are fit to make such a journey, or that would protect them while at sea.

The HDOA committed to base its new regulations upon federal export standards, which include provisions to ensure that animals do not suffer or die from preventable causes. Among the basic requirements are access to food and water, proper ventilation, and proper care for sick animals. Animals will also be inspected to determine whether they are fit to travel these journeys in the first place.

The promulgation of these regulations will make Hawaii the nation's leader in ensuring animals transported on sea vessels are properly cared for and that the transport of animals is less stressful and more humane. AWI applauds the state's efforts to protect these animals, and hopes that other states transporting animals on ocean journeys will draft similar measures. 🐾

AWI SUES OVER SLAUGHTER OF DOWNED PIGS

In February, AWI and a coalition of animal groups sued the USDA for its decision to deny a petition asking the department to ban the cruel practice of slaughtering nonambulatory disabled (NAD) pigs. NAD animals are those who are unable to walk or move on their own due to illness, injury, or fatigue. These animals are more vulnerable to abuse at slaughterhouses—workers often try to force them to move by kicking, dragging, shoving, or even electroshocking them.

The USDA's failure to regulate and prohibit the slaughter of NAD pigs gives unscrupulous producers incentive to force animals to rise using such violent methods and to continue sending sick and injured pigs to slaughter. NAD pigs are also at a higher risk of carrying human-transmissible pathogens, because they are held longer than ambulatory pigs, often in feces-ridden pens. This

violates the Federal Meat Inspection Act (FMIA), under which the USDA is required to prevent the sale of meat that, due to disease, is unfit for human consumption.

Because NAD animals are at a higher risk of being abused and transmitting disease, AWI and co-plaintiffs believe that the USDA acted arbitrarily in denying the rulemaking petition. The outcome of this case has the potential to affect over half a million pigs who arrive at slaughterhouses each year unable to rise. AWI will update its members on the progress of this important lawsuit as it proceeds through the legal system.

UNINSPIRING UPDATE TO USDA ANIMAL-RAISING CLAIMS GUIDELINE

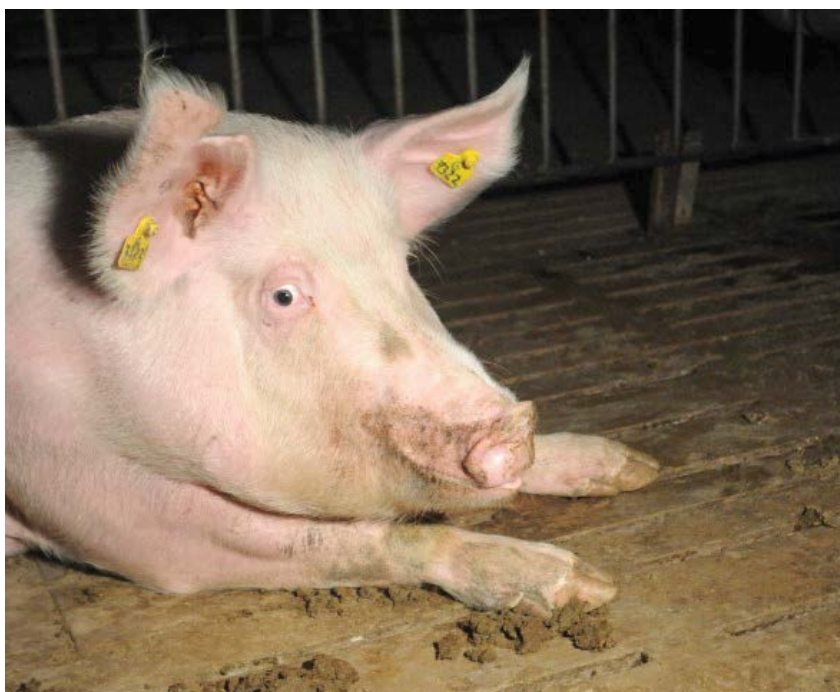
The USDA has recently released its updated food labeling guideline for animal-raising claims made on meat and poultry products, three years

after taking public comments on proposed changes. Disappointingly, the department failed to address a number of issues AWI raised in our comments and in a petition we submitted requesting that the USDA regulate “free range” and similar claims.

Under the new guideline, producers can continue to use animal-raising claims so long as a definition is also provided on the package. This allows producers to create their own definitions for complex animal welfare concepts that cannot possibly be adequately conveyed in the limited space the packaging provides. It also leads to confusion for consumers who are confronted with multiple definitions for a particular claim, and harms producers who actually adhere to higher welfare standards. The USDA asserts that its process prevents deceptive and misleading claims on meat and poultry products, when in reality the lack of proper oversight allows producers to exploit humane claims without actually improving the lives of their animals.

In addition to releasing the updated guideline, the USDA also requested further comment on the “free range” claim. In our comments, AWI argued producers should not be allowed to make this claim using their own definitions for it. Instead, the USDA should establish a clear and consistent definition that requires “free range” animals be provided adequate access to the outdoors, soil and vegetation, and protection from adverse weather and predators.

The USDA continues to allow facilities to slaughter animals that are too sick and injured to move around on their own.



JO-ANNE MCARTHUR/WE ANIMALS



A hurricane that passed through North Carolina left these dead chickens in its wake. Agricultural facilities often lack any sort of plan to rescue farm animals during natural disasters.

JO-ANNE MCARTHUR/WE ANIMALS

CONGRESS DIRECTS USDA TO HELP FARMERS DEVELOP DISASTER PLANS

Each year, under a federal disaster assistance program called the Livestock Indemnity Program (LIP), the US Department of Agriculture shells out tens of millions of dollars to compensate livestock producers for the injuries and/or deaths of farm animals from extreme weather. According to government data analyzed by AWI, in 2019 alone, the total amount awarded under LIP was over \$58.5 million, up from about \$38 million in 2018. Despite the staggering number of weather-related livestock deaths that occur each year, and the hefty price tag associated with the losses, producers have not been required to demonstrate that they provide their animals with even the most basic protections from extreme weather. AWI worked to secure language in the fiscal year 2020 spending package that directs the USDA to work with producers to develop plans to protect animals during disasters. We hope to see this

language strengthened in the future by requiring producers to both develop and execute disaster plans before becoming eligible for LIP payments.

NATION'S OLDEST AG-GAG LAW RULED UNCONSTITUTIONAL

On January 22, 2020, a federal district court in Kansas struck down a majority of the state's ag-gag law for violating the First Amendment. The law, enacted in 1990, banned individuals from going undercover to film at agricultural operations within the state. Laws such as this protect industrial agriculture operations by criminalizing investigations into how animals are raised. Undercover investigations, which often involve activists photographing and filming the miserable conditions at factory farms, are critical for the public to gain an understanding of farm and slaughter practices in the United States, and are often the only way for cruel practices to be revealed.

Similar ag-gag laws have been struck down across the country, including laws in Idaho, Iowa, and Utah. Challenges to Arkansas's and North Carolina's ag-gag laws are ongoing, but the success in Kansas and other states is encouraging.

NEW YORK CITY BANS FOIE GRAS

New York City recently joined California in passing legislation to prohibit the sale of foie gras, a controversial "delicacy" in French cuisine that has long been criticized by animal advocates for the cruel way in which it is made. Foie gras is produced via gavage, whereby ducks or geese are force-fed through feeding tubes in order to enlarge their livers 7–10 times the normal size. This can lead to a number of health and welfare problems, including injuries to the esophagus from the tube insertion, illnesses caused by reduced blood flow, and increased mortality.

After the California prohibition passed in 2004, a number of legal challenges resulted in the law first being struck down in 2015, then subsequently upheld in 2017. In January 2019, the US Supreme Court rejected the industry's latest challenge to the California statute, allowing the prohibition to remain in effect. (See *AWI Quarterly*, spring 2019.) These laws have the potential to make a significant impact on animal welfare, as California and New York City are two of the largest markets for foie gras.



Nation's Laws Protecting Animals and Environment Are *Essential*

Our nation's foundational environmental laws are a little like air—something you don't really notice until it's gone, or is so diluted that it's hard to breathe. Like air, we take these laws for granted, easily forgetting that not so long ago lead was allowed in water pipes and paint, and industries could spew just

about any pollutant they wanted into our air and waterways. Fewer and fewer people remember a time when the Cuyahoga River—a veritable soup of industrial chemicals—caught fire. We forget (or never knew) that bald eagles, grizzly bears, and wolves were nearly driven to extinction in the contiguous United States. This

In 2016, AWI and allies sued under the Endangered Species Act to win greater protections for endangered ocelots in Arizona and Texas.



ELI77

phenomenon is referred to as shifting baseline syndrome: a gradual change in accepted norms for the condition of the natural environment due to lack of past information or lack of experience of past conditions.

The National Environmental Policy Act (NEPA), Clean Air Act, Clean Water Act, Endangered Species Act (ESA), and other keystone environmental laws and their implementing regulations have provided a safety net for the commons for over 40 years. Through these laws, we are able to engage in public processes for decisions that affect wildlands, air, water, wildlife, and climate. The fact that American rivers no longer burn and people can and do see eagles, wolves, bears, and other imperiled and once-imperiled species in the wild is due to the passage of these laws a generation ago and the advocacy by citizens and nonprofit organizations that ensures they are enforced and remain effective. Today, we take for granted that most—though still not all—of the air in this country is safe to breathe and water safe to drink.

Our tendency toward complacency is dangerous. At a time of crisis—with only a handful of years left to truly address the threats of climate change—environmental laws are under attack like never before. Because of the bipartisan popularity of such laws, the attacks have shifted from efforts to rescind the laws to undermining how they are implemented.

The *New York Times* recently reported that the Trump administration has already rolled back over 90 environmental rules and regulations, with more slated for the coming months. The somewhat wonky regulations that enable enforcement of the laws are being weakened. Public participation is being undermined. Access to the courts is being limited. These changes may seem insignificant, but have no doubt: They have real on-the-ground damaging impacts. This wholesale corrosion of conservation laws is akin

to thinning the air so much that we can no longer breathe. The substance is still technically air, but it doesn't provide the oxygen necessary for life.

One of these vital laws—the Endangered Species Act—protects not only individual imperiled animals, but also the habitat critical to the species survival and recovery. The protections of the ESA are often referred to as an emergency room for threatened and endangered animals: The medical treatment includes providing adequate habitat and safeguarding it from the very activities imperiling the animals, such as logging and fossil fuel development.

The administration, however, is seeking to limit what lands may be designated as “critical habitat”—eliminating designations of land not currently occupied and prohibiting consideration of effects on the climate. These regulatory changes would undermine the capacity of the law to apply the precautionary principle and protect lands that species need

The Trump administration has sought to weaken US environmental laws that help hold mining and other extractive industries accountable for pollution and habitat destruction.



Woodland caribou are now protected under the Endangered Species Act. Their range once extended into several northern US states, but much of their habitat in Canada and the United States has been lost.

of their decisions and consider available options, while allowing the public to voice concerns and ask questions during the decision-making process.

NEPA has enabled hundreds of millions of Americans to participate in this process. In many cases, without NEPA, the public would not have an opportunity to contribute to the conversation about potentially dirty and dangerous projects—from our own backyards to the nation's last remaining truly wild places. NEPA is intended to inform and empower communities, while demanding government accountability and transparency.

The administration's proposed changes to NEPA put corporate profits before communities' concerns, limit the scope and timeframe of environmental impacts that agencies must consider, and allow companies to conduct their own reviews—diminishing the very transparency that NEPA is meant to uphold. Further, these proposed changes would eliminate consideration of effects on the climate.

As the impacts of climate change hit home here in the United States, we are likely to face increasing occurrence and severity of unnatural disasters. If the United States were to experience fires or other climate-change-induced disasters at the scale of those that have recently ravaged Australia, it would be these key environmental laws that would help us recover. We cannot afford to see them diluted. To ensure that we protect the habitat of rare and imperiled wildlife, we must address the root drivers of climate change and defend the laws designed to protect wildlife. All of us must take a stand against the systematic dismantling of laws that safeguard our environment. We can't afford to have them vanish into thin air. 🐾



to survive in the short term, as well as recover to the point where the protections of the law are no longer necessary in the long term. The changes also remove the flexibility built into the law to address unexpected challenges that result from a combination of threats. These planned changes are on top of earlier regulatory alterations undermining the law that have already been pushed through by the administration. (The PAW and FIN Conservation Act, currently before Congress, seeks to reverse these damaging alterations. See page 4 of this issue.)

Many species are in serious trouble. From the recently documented precipitous drop in songbird populations (see *AWI Quarterly*, fall 2019), to the decline of red wolves and the possible winking out of fireflies, wildlife are facing myriad and increasing threats. The systems in place to defend against those threats are themselves threatened by a federal administration bent on prioritizing resource extraction at any cost.

Another law under attack by the administration—the National Environmental Policy Act—provides the public an opportunity to weigh in on federal agency decisions that may affect the environment. Put simply, NEPA requires government agencies to assess the environmental impacts

JULIAN COOPER



KIM BARKER

The organization Wildlife Rescue Nests engages a cadre of volunteers to knit nests for rescued and rehabilitating wildlife—including this napping baby raccoon.

KNITTING NESTS FOR WILDLIFE IN NEED

The international outpouring of support toward injured and orphaned animal victims of the Australian wildfires has been tremendous. In addition to the generous monetary and medical supply donations, individuals from around the world picked up their knitting needles and crochet hooks, dusted off their sewing machines, and collaborated to make items for animals in rehabilitation centers: koala mittens, bat wraps, joey pouches, and bird nests. The response from crafters has been so great that Australians have asked for a “time out” as they assess whether more items are still needed.

Even if Australians determine they no longer need additional craft items, your local wildlife rehabilitator likely does. Wildlife Rescue Nests is a volunteer-run, nonprofit organization that connects crafters with wildlife rehabilitators needing nests for birds and small mammals in their care. Since 2013, the organization’s volunteers have provided over 31,000 knitted or crocheted nests to more than 500 wildlife rescues across the globe.

Registered volunteers have access to approved knitting and crocheting patterns, as well as a current list of registered rescues and the specific nests each has requested. In exchange for the volunteers’ hard work, rescues share a photo of the nests being used.

Have a hankering (and hank of yarn) to help? Visit <https://wildliferescuenests.weebly.com> to register as a volunteer.

AWI CONTRIBUTES TO AUSTRALIAN WILDLIFE RESCUE AND RECOVERY

While the images of singed rescued koalas have dominated media attention, many other species are impacted by the Australian fires. Grey-headed flying foxes; platypuses; kangaroos; wallabies; quokkas; northern and southern hairy-nosed wombats; brushtail possums; sugar, greater and feathertail gliders; and southern boobook owls and many other unique imperiled bird species are now at even greater risk. The immediate threat of the fires has passed for this season, but the loss

of habitat and food sources will make it difficult for these rare species to recover. Long-term habitat restoration will be necessary to prevent their extinction.

With an estimated loss of at least 1 billion wild animals, Australia is feeling the devastation of climate chaos firsthand. Here in the United States, we had a taste of these impacts with recent California wildfires. Wildfire is a natural process, and key to vital ecosystem functions. Many trees and other plants require wildfire for germination or reproduction. However, these recent wildfires differ from the natural fire cycle: They are fed by years of drought, poor management practices allowing for fuel buildup, and climate change. Fires that burn extremely hot permanently damage the soil, and plant and animal species that normally would survive a fast-moving wildfire do not.

AWI has contributed funds and is passing on donations earmarked for Australian wildlife rescue and recovery to the Balu Blue Foundation, which itself passes funds to smaller wildlife rehabilitation organizations and individuals who care for wildlife. We have also donated to Adelaide and Hills Koala Rescue, Goongerah Wombat Orphanage, Warriors for Wildlife, and Wildlife Victoria in an effort to spread support across various impacted geographies. Recovery from the impacts of the fires and the floods that followed will require ongoing support. One hundred percent of donations you make to AWI and designate as “for Australia” will go to Australian rescue organizations.

UNEXPECTED RESPONSE OF COYOTES TO NEW NONLETHAL MANAGEMENT TOOL

Over the past century, coyotes have expanded their range, now inhabiting everywhere from Alaska to Mexico, and San Francisco to New York City. One consequence of their success has been an increase in conflict with both humans and other wildlife.

A variety of management tools are used to prevent and mitigate coyote conflicts. Such tools include fladry, which consists of a single strand of rope or electric fencing wire with red flags attached at even intervals. First developed for use with wolves, fladry is strung along the outside of protected areas (e.g., pastures), where the flags flapping in the wind disrupt wolf behavior and the electrified wire adds a shock to further discourage undesired predation.

Although coyotes have similar responses to fladry, their smaller size allows them to sneak between flags. As a result, the National Wildlife Research Center developed a new “coyote fladry” with narrower flag spacing. We tested this in a field setting for the first time using, in part, funds provided by a Christine Stevens Wildlife Award from AWI.

Our goal was to test coyote fladry and understand how long it could exclude coyotes from areas we wished to protect. Because coyotes have individual personalities that range from bold to shy, we suspected their response to fladry would be highly variable. To investigate this variability, we used



methods that allowed us to understand how fladry influenced coyote use of protected areas and how they responded behaviorally to fladry. For the study, we cordoned off high-density prairie dog colonies. Such colonies are preferred habitats of coyotes in prairie ecosystems, where prairie dogs form a key part of their diet.

We did indeed find that coyote response to fladry was highly variable. In some plots, fladry excluded coyotes for the entire 60-day duration of our trials, and in others fladry kept coyotes out for as little as 9 days. On average, fladry excluded coyotes from protected areas for about 32 days. We also found that, in comparison to unprotected reference areas, the area inside fladry-protected enclosures was used 37 percent less during the first 30 days of our trial and, surprisingly, 60 percent less during the second 30 days of our trial. In addition, although fladry decreased coyote use, coyotes explored the periphery of fladry enclosures immediately after fladry installation (as shown by the tracks in the snow in the photo above).

Overall, fladry reduced coyote use within protected areas for at least 60 days; however, because coyotes appear to be attracted to fladry, it may do so in a way that is counterintuitive. Individual variation in coyote behavior is difficult to study but is a critical component of nonlethal coyote management and should be considered in the development and testing of future tools that aim to effectively, and humanely, manage wildlife. 🐾

by Rebecca Windell, who conducted this research as a graduate student at Colorado State University, where she worked with Dr. Stewart Breck, a faculty member at CSU and carnivore ecologist at the National Wildlife Research Center.



NOVEL METHODS TO ASSESS THE POPULATION STATUS OF THE EASTERN MASSASAUGA RATTLESNAKE

The eastern massasauga is a small rattlesnake that was once widespread and common but is now threatened in approximately 75 percent of its range. It is protected in every state or province where it occurs and is listed as threatened under both the US Endangered Species Act and Canada's federal Species at Risk Act. Efforts to study the population dynamics and survival of eastern massasaugas have historically been difficult due to cryptic coloring, reclusive behavior, and low recapture rates.

Use of drones to survey wildlife is increasing as both drones and high-resolution cameras become more affordable. Some studies have demonstrated improved count accuracies via drone surveillance over traditional ground-based techniques. Whereas drones are primarily used to quantify conspicuous species, the increased use of aerial thermal imaging has improved detection of cryptic species. The aim of this project was to determine if aerial thermal imaging could increase the detection of eastern massasaugas during their active season (April–September), when they maintain elevated body temperatures for gestation and digestion.

A total of 23 surveys were completed between April and August of 2019. Surveys took place during daylight hours to provide coverage across different sun angles and ambient surface temperatures. Transects were flown at an altitude of 10 meters (about 33 feet) to minimize disturbance. Once a

suspected massasauga was spotted, the drone was lowered to approximately 3 meters (about 10 feet), and a 30x optical zoom camera was used to provide confirmation. The snakes did not react to the presence of the drone at either altitude. The Christine Stevens Wildlife Award facilitated the purchase of a second controller and tablet, improving efficiency by allowing the pilot to focus on drone operation while a second operator focused on scanning the thermal imagery.

Using thermal imagery, we were able to successfully detect eastern massasaugas with as little as a 1 degree Fahrenheit increase over ambient ground temperatures. Coiled snakes were easier to detect during surveys due to the unique shape and higher heat retention, while uncoiled snakes were harder to discern, as the prairie contained several similarly shaped objects that retained heat at a higher temperature compared to the ground. Additionally, weather impacted survey results. Cool or overcast days were most conducive to locating massasauga rattlesnakes using thermal imaging. The reduced solar radiation on those days required snakes to seek higher ground for basking, increasing the temperature contrast between the snake and substrate. On hot, full sun days, the snakes' "solar loading" brings them up to the surrounding substrate temperature, effectively making them invisible to the thermal camera.

Thanks to the support of the Christine Stevens Wildlife Award, this project demonstrated that aerial thermal imaging can be employed as an effective and noninvasive survey technique to detect eastern massasaugas. 🐍

by Christine Proctor, PhD, Harrisburg University



The “A Voice for Animals” contest—now in its 30th year—allows high schoolers around the globe to showcase how they are helping prevent animal suffering and preserve wild species.

“A VOICE FOR ANIMALS” CONTEST NOW OPEN

When the Humane Education Network (HENNET) was founded in the 1970s, young animal activists didn’t have online petitions and social media to connect and quickly spread awareness. They collected signatures in front of grocery stores, and used “telephone trees” to pass important information to members—one phone call at a time. Even by 1990, when the “A Voice for Animals” student essay contest was launched, entries were submitted via mail. Jenness Hobart, who currently manages the contest for HENNET, recalls that they would receive around 60 of these paper submissions, which then had to be mailed to and scored by each of the contest judges in turn.

Thirty years later, the contest—which has been online since 1995 and is now cosponsored by AWI—receives hundreds of entries covering welfare issues related to marine life, terrestrial wildlife, farm animals, and companion animals. Regardless of the subject matter, students are encouraged not only to write about and raise awareness of important welfare issues, but also to be active participants in protecting animals and alleviating animal suffering.

In recognition of the 30th anniversary of the contest, a separate prize category has been added for those wishing to examine how treatment of animals has improved—or where progress has stalled—over the three decades since the contest opened. One thing that has not changed in 30 years is the hope and optimism of the younger generation



ANDREI STANESCU

that they can make a difference in the lives of animals.

So spread the word: The 2020 “A Voice for Animals” contest is now open for entries through May 31. Students ages 14–18 are eligible to enter. Visit www.hennet.org to see instructions on how to enter and view entries from past winners.

CONGRATS TO AWI SCHOLARSHIP RECIPIENTS

AWI extends our congratulations to Hailey Chui (California), Katja Erringer (Oregon), Sage Farrow (Colorado), Lien Ferry (Pennsylvania), Makenna Owens (Florida), Will Smith (Minnesota), Isabell Sydow (Minnesota), and Chloe Quin (Illinois). These are the recipients of the inaugural Animal Welfare Institute Scholarship.

AWI launched the scholarship late last year in order to assist high school students who have demonstrated a commitment to animal welfare and

who plan to continue working to better the treatment of animals through college and beyond.

AWI raised funds for the scholarship program during our Giving Tuesday campaign last November, and began receiving applications in December. Of the submissions received, the AWI scholarship committee selected the above-mentioned high school seniors for awards of \$2,000 each for use toward college expenses.

These individuals have spent their high school years volunteering at local humane societies, veterinary clinics, and wildlife rehabilitation centers, and were enthusiastically recommended by their teachers and mentors. In helping such students defray some of the costs of post-secondary education, AWI hopes to encourage and inspire the next generation of animal advocates. The 2020 Animal Welfare Institute Scholarship recipients are already improving the lives of animals, and we look forward to seeing more from these dedicated young humanitarians in the future.



Fast Tracking Fatalities: Bust of Horse Racing Doping Ring Highlights Need for Reform

Each year in the United States, hundreds of racehorses die on tracks across the country—a death toll that far exceeds the number of fatalities in other racing jurisdictions around the world. Why the difference? Well, for one thing, other countries ban the use of race-day medications that mask injuries, pain, inflammation, and other warning signs that precede catastrophic breakdowns. Here, performance-enhancing drugs are standard fare and oversight is exceedingly lax within an industry that has been largely left to police itself.

Some rather dramatic outside policing did take place in March, though, when more than two dozen trainers, pharmacists, veterinarians, and drug distributors were charged as participants in a pervasive doping ring. Jason Servis, one of the world's most successful trainers, was among the busted backstretch denizens. (He is the trainer of Maximum Security, the horse who finished first in the 2019 Kentucky Derby, only to be disqualified for interference.) According to federal prosecutors, Servis doped “virtually all horses under his control.”

To date, the US racing industry has been largely unwilling to implement meaningful reforms that would promote equine welfare. However, the recent and shocking spate of deaths at the storied Santa Anita racetrack outside Los Angeles—where 46 horses have died since December 2018 during racing or training—has undoubtedly put a spotlight on the desperate need to clamp down on widespread doping.

In the midst of this, a bipartisan bill in Congress, the Horseracing Integrity Act (HR 1754/S 1820), has amassed significant support. A House committee hearing on the bill

was held in January, during which the myriad and pervasive problems surrounding horse racing in this country were spelled out. The Horseracing Integrity Act would create an independent anti-doping authority that would set uniform national standards, testing procedures, and penalties, replacing the patchwork and wildly inconsistent regulatory schemes that currently exist among 38 US jurisdictions. Perhaps most importantly, the bill would prohibit race-day medications.

While the final fallout from this latest scandal remains to be seen, one thing has been made abundantly clear—a culture of doping is deeply entrenched in the industry. According to the *New York Times*: “Maximum Security won eight of 10 races and nearly \$12 million in purses while passing drug test after drug test,” even as—prosecutors assert—“veterinarians falsified records and backstretch pushers promised and delivered cutting-edge chemistry.”

The United States is long overdue for comprehensive and uniform regulations regarding the use of medications for racehorses. Polling shows that most Americans support efforts aimed at curbing this unhealthy reliance on performance-enhancing drugs. Without such reforms, horses will continue to suffer and many will die. As the US Attorney for the Southern District of New York explained, the trainers, veterinarians, drug distributors, and others who were indicted in these schemes “engaged in [such] conduct not for the love of the sport, and certainly not out of concern for the horses, but for money. And it was the racehorses that paid the price for the defendants’ greed.”

Visit www.awionline.org/horse-racing to urge your members of Congress to support the Horseracing Integrity Act. 🐾

HUMAN “BODY-ON-A-CHIP” COULD REPLACE TRADITIONAL ANIMAL TESTING

Organ-on-a-chip is a relatively new technology that reconstitutes the functions of human organs on devices as small as a computer memory stick. Each organ-on-a-chip is composed of a clear flexible polymer lined with human cells to mimic various physiological responses to drugs, toxins, or other chemicals. “They are essentially living, three-dimensional cross-sections of major functional units of whole living organs,” said Dr. Donald Ingber, founding director of Harvard’s Wyss Institute for Biologically Inspired Engineering, which launched this technology in 2009.

As an example, the lung-on-a-chip mimics a breathing human lung, with human lung cells in contact with human capillary blood vessel cells. “And then [by adding simulated breathing motions] the whole thing stretches and relaxes just like our lung does when we breathe,” said Ingber. Researchers have created various other organs-on-chips, including kidney, liver, and heart chips.

In January, the Wyss Institute announced the creation of a human body-on-a-chip: multiple organs-on-chips successfully linked to mimic whole-body physiology, allowing real-time observations of the complex biochemical and physiological responses across 10 different organs. The body-on-a-chip technology was able to predict organ-specific toxicities and changes in drug levels over time seen in human patients.

Because the devices are made using human cells, they are potentially more predictive of the human situation than current animal models. This technology also allows higher

turnaround times and lower costs than traditional animal studies. “And we hope,” said Ingber, “our demonstration that this level of biomimicry is possible using organ chip technology will garner even greater interest from the pharmaceutical industry so that animal testing can be progressively reduced over time.”

LAB ANIMAL CAREGIVERS SHARE INSIGHTS IN NEW LAREF VOLUME

AWI is pleased to announce publication of *It’s Okay to Cry: Discussions by the Laboratory Animal Refinement & Enrichment Forum, Volume V*.

Since 2002, AWI’s Laboratory Animal Refinement and Enrichment Forum (LAREF) has facilitated the sharing of ideas and experiences of animal care personnel who strive to improve the conditions under which all animals in research are housed and handled. Throughout the discussions, participants offer numerous insights into how best to meet the psychological and behavioral needs of various species in a laboratory setting.

This latest LAREF volume comprises conversations that took place on the

forum from February 2016 through December 2019. As with the previous four LAREF compendiums, *It’s Okay to Cry* was edited by Dr. Viktor Reinhardt, the forum moderator and a member of AWI’s Scientific Committee.

The title of the book is a nod to discussion threads that appear in the book’s final chapter. These conversations examine the often-wrenching experience for caregivers when they form strong bonds with animals they know will die at the conclusion of the experiment. The threads examine how caregivers can express genuine emotions, avoid compassion fatigue, and steel themselves against unsympathetic colleagues and institutions that frown on outward exhibitions of grief over the loss of these animals.

AWI offers *It’s Okay to Cry* at no cost to those who work with animals in research. The book is also available for free download as a PDF file at www.awionline.org/okay-to-cry.

A new collection of discussion threads from AWI’s Laboratory Animal Refinement and Enrichment Forum offers practical advice on how caregivers can implement welfare improvements for animals in research.





KATHLEEN CODA

Enrichment Strategies for Rabbits in Research

One of the goals of environmental enrichment is to encourage species-typical behaviors while discouraging abnormal behaviors. Assessing the effectiveness of various enrichment strategies can be a challenging endeavor, particularly for prey species who may exhibit freezing responses in the presence of people. The goal of our study, which was funded by an AWI Refinement Grant, was to determine if we could use various environmental enrichment strategies to promote species-specific behaviors, decrease potentially abnormal behaviors, and improve the overall welfare of rabbits in laboratories.

We began by looking at cage size as a form of enrichment. We video recorded rabbits in three cages that varied in size: a standard housing cage (25 x 29.5 x 16 inches), a medium-sized cage (28 x 45 x 27 inches), and a large run (65 x 70 x 96 inches). After reviewing the videos, we constructed an ethogram of laboratory rabbit behaviors. We then used that ethogram to quantify behaviors seen in the rabbits in the various cage sizes.

We found that rabbits housed in large runs spent an average of 71.8 percent of the time performing active, exploratory behaviors, 24.2 percent resting, and only 4 percent of time performing self-directed grooming behaviors. By comparison, rabbits housed in the standard cages spent 30.7 percent of the time engaged in active behaviors, 34.8 percent resting, and 34.5 percent grooming. The differences in time spent performing active behaviors and time spent performing self-directed grooming behaviors were statistically significant ($p < 0.05$). This led us to surmise that housing rabbits in larger cages has a positive impact on their welfare, allowing them more space and opportunity

to perform active, species-typical behaviors while reducing potentially stereotypic self-directed grooming behavior.

In facilities where rabbits aren't currently housed in large runs, the standard cage may nonetheless be much improved by adding relevant items into the cage. Therefore, we decided to explore if the provision of enrichment devices while being housed in the standard size cage could promote the increased expression of active behaviors similar to what was seen with rabbits in the large runs. We selected three devices: a hanging toy, a destructible device, and a dig bin. The provision of all three enrichment devices led to more time spent performing active, exploratory behaviors (64.9, 77.1, and 70.0 percent of time, respectively) than what was seen in control rabbits with no enrichment device (37.6 percent of time). The enrichment devices also reduced the time spent performing grooming behavior (hanging toy 3.3 percent, destructible 2.6 percent, and dig bin 6.7 percent of time) compared to control rabbits with no enrichment device (24.4 percent of time). These changes were again statistically significant ($p < 0.05$).

Overall, the provision of large runs or the addition of enrichment devices into standard cages encouraged a broad spectrum of active, species-typical rabbit behaviors, while simultaneously reducing potentially stereotypic self-directed grooming behavior. We have since added these enrichment devices to our care and use program and find them to be an easy, cost-effective way to improve welfare. 🐾

by Kathleen Coda, DVM, postdoctoral clinical veterinarian at the University of Illinois at Chicago Biologic Resources Laboratory

AS USDA DITHERS, RESEARCH CHINCHILLA SUPPLIER GOES UNCHECKED



GORUPPA

Native to the Andes Mountains in South America, chinchillas are gentle, social, inquisitive, and energetic rodents. Though not typically thought of as experimental animals, chinchillas (because of their large ears and hearing similar to humans) are often used for invasive and terminal research on diseases of the inner and middle ear.

The primary supplier of chinchillas for research, listed in the online AALAS Laboratory Animal Science Buyers Guide, is Moulton Chinchilla Ranch (MCR) in Minnesota. MCR is a USDA-licensed dealer that has been breeding and selling chinchillas since 1966; the company states that its inventory is 500 to 900 animals.

provide needed veterinary care, were repeated over and over, sometimes with the same animals whose condition had become even worse. Over 120 suffering chinchillas had to be identified *during inspections* as needing veterinary care. Inspectors observed eyes that were crusted, sealed, swollen shut, bleeding, and oozing fluid. They reported insufficient staff, green drinking water, collars becoming embedded in the animals' necks, an ammonia-like foul odor so pervasive it burned inspectors' eyes and throats and forced them to leave, waste so widespread the animals could not find a clean spot to stand or sit, fly infestations, long-dead animals left in cages, and lighting so poor that adequate welfare checks were not possible.

INSPECTORS OBSERVED EYES THAT WERE CRUSTED, SEALED,
SWOLLEN SHUT, BLEEDING, AND OOZING FLUID.

From all appearances, MCR's track record on animal welfare is truly horrific: Between December 2013 and February 2020, the company was cited more than 100 times for Animal Welfare Act violations on USDA inspection reports. Yet, during this time, the USDA appears to have done next to nothing to prevent continued suffering of MCR's chinchillas.

WHAT USDA INSPECTORS FOUND

The USDA cited apparent violations in 21 of 23 inspections conducted during this period. Many, such as failure to

ACCESS REPEATEDLY DENIED

The USDA actually attempted to visit the facility 40 times over the past 6+ years. Seventeen times—in what is by far the worst case we know of—the USDA inspector arrived and was told that an authorized individual was not available to accompany the inspector. This prevented the USDA from inspecting the animals. As recently as February 4, 2020, an inspector arrived to inspect, but the owner of the business claimed he couldn't stay and therefore, once again, no inspection occurred. On three of these 17 occasions—in

March, November, and December 2017—the USDA failed to even mark this unavailability for inspection as a citation.

How did the USDA respond in 2017 after years of appalling inspections and thwarted attempts at inspection? By giving the vendor a hiatus: The USDA didn't bother inspecting again until October 2018—nearly 10 months after the previous inspection attempt and 14 months after the last actual inspection. Then, when the USDA finally did visit, it elected

of failure to remove an excessive accumulation of waste—including excrement, soiled bedding, and even dead animals.

The USDA inexplicably failed, however, to include 60 additional instances of chinchillas in need of veterinary care, or seven additional times when inspections of animals were thwarted. As of March 12, 2020, the USDA had neither amended the November 2018 complaint nor filed a second one to include these instances, as well as any citations that

ONE FEMALE HAD "AN OPEN WOUND AROUND THE NECK WITH A PALE LIQUID DISCHARGE MIXED WITH A PALE GRANULAR - TYPE DISCHARGE IN IT AND A PUTRID ODOR."

—USDA complaint describing the result of a collar embedded in the chinchilla's neck, observed during an April 3, 2017, inspection

to do an *announced* inspection. (The standard compliance inspection is unannounced—the better to ensure that the inspector is able to see conditions as they truly are, without providing an opportunity for the licensee to quickly clean up or hide noncompliances.) This announced inspection was conducted as part of a troubling USDA pilot program, through which it was considering changing its procedures so as to provide advance warning for some inspections (see *AWI Quarterly* fall 2018).

Even at this scheduled inspection, in which MCR had at least 16 animals in the "sick bay" area, the inspector found an additional 22 animals in need of veterinary care and noted, "Health issues that are not identified in a timely manner can cause unnecessary pain and discomfort." MCR was also instructed to increase daily observation of the animals to include "looking at both eyes on each animal, and observations of their neck collars to check for tightness." Inspectors had noted in 2014 that eye problems at MCR were "ongoing." Despite the number of animals involved, MCR was given just one repeat citation for lack of veterinary care.

A COMPLAINT IS FINALLY FILED, BUT THE PROBLEMS CONTINUE

The USDA finally filed an 18-page complaint in November 2018. The complaint listed 81 separate instances of failure to provide adequate veterinary care, including multiple animals whose condition deteriorated over time. The complaint referenced countless eye issues and animals who were lame (in some cases, even missing part of a leg), who had tumor-like masses, and whose head listed to one side. One female had "an open wound around the neck with a pale liquid discharge mixed with a pale granular-type discharge in it and a putrid odor." MCR was also cited for unsafe housing and more than 10 instances

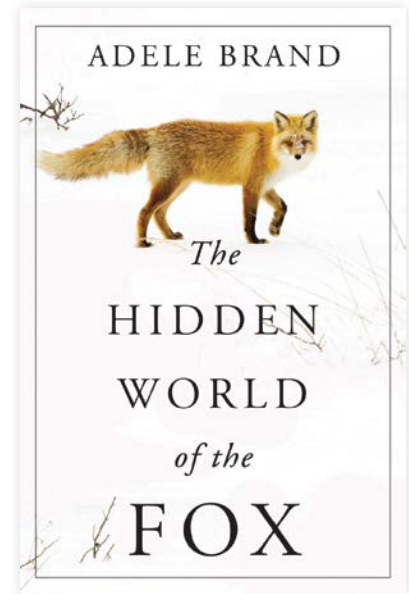
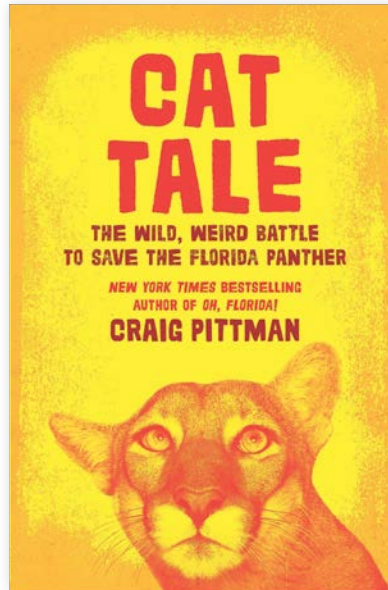
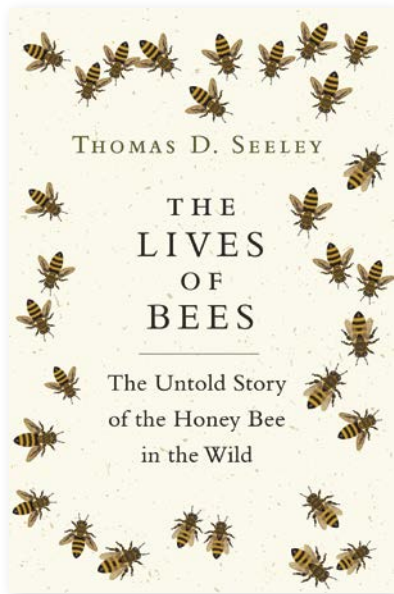
have been issued since. A hearing before an administrative law judge is scheduled for April 6 in Minneapolis.

Meanwhile, MCR can continue business as usual. Among the many research facilities that have used animals from MCR are Arizona State University, Medstar Health Research Institute, the University of Colorado School of Medicine, the University of Florida, the University of Minnesota, the University of Oklahoma, and Southern Illinois University.

In addition to condoning this unabated suffering, the USDA's lack of oversight has grave implications for research. In the words of AWI board member Dr. William Stokes, a former rear admiral and assistant US surgeon general, "Animals used in research must be raised under the highest standards of care and welfare in order to ensure high quality reproducible research, and to avoid health-related variables that can result in invalid research or the need to use more animals." Clearly, that has not been the case with MCR. 🐾

WAYS YOU CAN MAKE A DIFFERENCE

1. If you are an investigator, an institutional official, or an IACUC member overseeing or involved in research with chinchillas (or any other animal), use a supplier that is able to reliably meet the modest, minimum requirements under the Animal Welfare Act.
2. The USDA can and must prevent senseless animal suffering. Please send a letter or email to Kevin Shea, USDA-APHIS Administrator, 1400 Independence Avenue, SW, Washington, DC 20250 or Kevin.A.Shea@aphis.usda.gov and respectfully ask the USDA to revoke MCR's license and take strong action against others who have been cited so often by inspectors for failure to comply with the law.



THE LIVES OF BEES

Thomas D. Seeley / Princeton University Press / 376 pages

I don't think there is another animal on the planet considered to be as beneficial to humanity as the honey bee (*Apis mellifera*). For our earliest hominid ancestors, to have come across a wild bee hive would have been like winning the lottery. Collecting minute amounts of nectar and pollen from flowering plants spread across the landscape and bringing them to a central hive location, honey bees produced a glorious, sticky manna. When Egyptians began beekeeping nearly 4,500 years ago, honeycombs and beeswax became available with a new regularity, and it transformed our relationship with this social insect. Today, honey bees both produce honey and pollinate many agricultural crops. In 2019, the USDA estimated that honey bee operations with five or more colonies in the United States totaled 2.67 million colonies, with thousands of bees in each colony.

Surprising to some, honey bees are not native to North America. In the book, *The Lives of Bees: The Untold Story of the Honey Bee in the Wild*, biologist Thomas Seeley writes that the dark European honey bee was brought to the northeast in

the early 1600s. Commercial beekeepers refined systems for increasing the size and accessibility of beehives, boosting a colony's honey production, and an industry was born.

However, bees don't always stay put, and that is the focus of this book. Seeley studies honey bee colonies in the wild, and argues that honey bees going through the wringer of natural selection are, well, a different animal. Wild honey bees behave differently than their captive cousins. Seeley argues that captive honey bees are best considered "a semidomesticated species," avoiding the fundamental genetic changes occurring in domesticated animals. This means reverting to a wild existence takes no more effort than swarming away from a beekeeper's hive, and they "still follow a way of life set millions of years ago."

This is primarily a book about the natural history of the wild honey bee. Seeley discusses bee behavior in the context of a colony's ultimate goal: to amass enough food during the summer to last the winter. He concludes his book with a chapter titled "Darwinian Beekeeping." Seeley reviews 21 differences between wild and managed colonies, and

develops 14 suggestions for beekeepers to improve the health of their colonies... to find a “kinder and gentler approach.”

Seeley believes today’s beekeepers need to encourage these wild behaviors in order to protect bees from disease and stress. Why? To allow bees to be healthy and happy (my words), and “to put the needs of the bees before those of the beekeeper” (his words). Even in the 21st century, nature has things to teach us. Luckily, honey bees are patient teachers.

—Robert Schmidt, PhD, AWI Scientific Committee

CAT TALE

Craig Pittman / Hanover Square Press / 336 pages

Few endangered species sagas are as complex as the fight to save the Florida panther. Journalist Craig Pittman does an excellent job of untangling 50 years of biopolitics, egos, and evolving science in his new book *Cat Tale: The Wild, Weird Battle to Save the Florida Panther*.

The story is set in South Florida’s complex and diverse landscape dominated by the Big Cypress Swamp, the Everglades, tribal lands, cattle ranches, and citrus farms. These are further divided by political boundaries, administered by counties, state parks, and agencies such as the Florida Freshwater Fish and Wildlife Commission, the US Fish and Wildlife Service, the Army Corps of Engineers, and the National Park Service.

Pittman provides excellent profiles of the biologists, capture specialists, and agency personnel who work together to solve the myriad problems of Florida panther conservation. We learn how they navigated swampy landscapes, monitored and captured the big cats, and analyzed their inbred genetics. Sadly, it also tells a story of how science too frequently gives way to egos and politics.

Surprisingly, progress has been made with Florida panther recovery. The big cats have expanded their range to the north, introduction of pumas from Texas has improved genetics, and cooperation between agencies has improved—slightly.

I worked as a park ranger in Everglades National Park and volunteered on the Florida Panther Project years ago. I left the project hopeless for the big cat’s recovery. Pittman tells a story that is much more hopeful.

—Kevin Hansen, author of *Cougar, the American Lion and Bobcat: Master of Survival*

THE HIDDEN WORLD OF THE FOX

Adele Brand / William Morrow / 224 pages

The Hidden World of the Fox is a concise, yet broad overview of the fox. The author, British mammal ecologist Adele Brand, has been studying foxes for 20 years, and though her primary focus is foxes resident to England, she is interested in foxes around the globe. Her research has included travel to Yucatán’s rainforest, the Thar Desert in India, Subarctic Canada, and Rock Creek Park in Washington, DC. Foxes are widespread because of their incredible ability to adapt to a variety of environments and take advantage of opportunities available because of location or circumstance.

In a poll of British opinions on having foxes in the neighborhood, three-quarters of respondents either liked having them around, had no strong opinion, or didn’t believe foxes were in their area (although they were probably wrong). Those who most appreciate foxes believe that they have intrinsic value; as one fox supporter stated, “It’s nice to feel that nature is still around us and that we haven’t destroyed everything.”

Most enjoyable were Brand’s stories about foxes she has come to know and their interesting and sometimes quirky behaviors. At the end of the book and in keeping with her hope to encourage positive relationships between people and foxes, Brand notes a variety of ways to study them without disturbing them—including projects that might be of interest to children or teenagers—using photography, trail cameras, tracking, making casts of their tracks, and maintaining a wildlife diary. While some of her proposed science projects are specific to the UK, they provide a good launching point for further inquiry. It is fun and fascinating to watch foxes, and perhaps this book will inspire you to watch them more keenly.

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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CHRISTINE STEVENS WILDLIFE AWARDS: RESEARCH GRANTS AVAILABLE

Wildlife researchers: Do you have ideas that would contribute to more humane wildlife management and study? AWI is now accepting applications for its 2020 Christine Stevens Wildlife Award grant program.

Habitat destruction and degradation, urban and suburban sprawl, and ongoing challenges posed by invasive species make conflicts between wildlife and humans inevitable. Homeowners, property managers, and biologists need effective strategies to deal with conflicts—whether they involve coyotes, deer, geese, bears, exotic species, or other animals. Scientists also need new tools to humanely and unobtrusively study wildlife.

To address such issues, AWI created the Christine Stevens Wildlife Awards. Through this grant program—named in honor of the organization's late founder and president for over 50 years—AWI fosters efforts to devise new, nonlethal techniques and strategies and to test existing products for the purpose of humanely remedying wildlife conflicts and improving methods

of wildlife study. Each year, the program provides grants of up to \$15,000 to award recipients. With this grant program we aim to honor Mrs. Stevens' legacy and inspire a new generation of compassionate wildlife scientists, managers, and advocates.

This issue of the *AWI Quarterly* features two reports from past Christine Stevens Wildlife Award recipients. On page 18, Rebecca Windell describes how she used her award to study the efficacy of specially designed fladry to deter coyotes from entering protected areas. On page 19, Christine Proctor describes her study to determine whether drones equipped with thermal imaging cameras could help monitor the population of eastern massasauga rattlesnakes without disturbing the snakes.

Wildlife researchers across North America are encouraged to apply. The deadline for applications is May 29, 2020. Details on how to apply, application materials, and brief descriptions of studies that received awards in previous years can be found at www.awionline.org/csaward. 🐾

