

# AWI Quarterly

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## SPOTLIGHT

### New Computer Algorithm Could Replace Animal Tests— and Be Better at It

A team of scientists has developed an advanced computer algorithm that can predict the toxicity of new chemicals better than standard animal tests. This breakthrough has the potential to spare millions of animals from having to endure such testing.

Each year around the globe, an estimated 3–4 million rabbits, rats, and other animals are subjected to tests of new chemical compounds intended for human or environmental use. The tests are often repeated dozens of times. The computer algorithm, however, equaled or outperformed the animal tests in six areas that account for nearly 60 percent of all such

toxicity tests (acute oral and dermal toxicity, eye and skin irritation, DNA mutation, and skin sensitization).

Two years ago, Dr. Hartung and his team at Johns Hopkins developed the world's largest toxicological database containing information on the properties and structures of 10,000 chemical compounds, based in part on 800,000 toxicology tests. In the new study, which was published in the journal *Toxicological Sciences* on July 11, the researchers expanded the database and developed a computer algorithm to generate a map of the relationships between chemical structures and toxic properties. Now, using related software also developed by these researchers, it is possible to determine the precise location of any new chemical compound on the map, and predict—with more accuracy than any single animal test—whether the compound is likely to have toxic effects based on its proximity to other compounds on the map.

“These results ... suggest that we can replace many animal tests with computer-based prediction and get more reliable results,” says Hartung. “Our automated approach clearly outperformed the animal test, in a very solid assessment using data on thousands of different chemicals and tests. So it's big news for toxicology.” It is also big news for animal welfare. 🐾

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AWI QUARTERLY FALL 2018

ANIMALS IN LABORATORIES

- 2 New Computer Algorithm Could Replace Animal Tests—and Be Better at It
- 18 Determining an Efficient and Effective Rat Tickling Dosage
- 19 Reducing Aggressive Behavior in Mice with the Addition of Cage Dividers
- 28 Apply for Laboratory Animal Welfare Refinement Grants

FARM ANIMALS

- 22 Library of Congress Reports on Ritual Slaughter Laws in Europe
- 22 Beef Quality Audit Suggests Need for Welfare Improvements
- 23 Perdue's "Happy Chickens" Claim Ruffles Rival's Feathers
- 23 NC Legislature Lets Big Pork Pollute with Impunity
- 23 International Body Adopts Pig Welfare Standards
- 24 USDA Begins Enforcement of New Animal Export Rule

MARINE LIFE

- 9 Key Court Victory for Vaquita
- 9 AWI at United Nations Ocean Noise Meeting
- 9 Icelandic Whalers Kill Rare Hybrid Whale
- 10 IWC67: Key Decisions, Fractious Discussions Forecast for Florianopolis

WILDLIFE

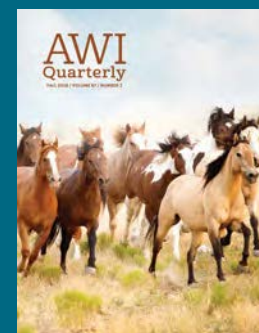
- 4 Nontarget Trapping Is Killing Cougars
- 4 Humans Turning Animals into Night Owls
- 4 Trap Time a Factor in Snared Wolves' Stress Response
- 6 House Bill Sanctions Surgical Sterilization of Wild Horses
- 8 Thirst for Oil May Finally Despoil ANWR
- 14 In the Air and on the Ground, AWI's Bill Clark Heeds the Call of the Wild

GOVERNMENT AFFAIRS

- 5 Ivory Ban Passes in Illinois
- 5 Chipping Away at the ESA
- 5 Offensive Riders Stripped from Defense Bill
- 20 Administration Remaking AWA into Animal Industry Welfare Act

REVIEWS

- 26 *Birds of a Feather*
- 27 *The Inner Life of Cats*
- 27 *Love and Bananas*



ABOUT THE COVER

Wild horses in Utah. Wild horses are protected under the Wild Free-Roaming Horses and Burros Act of 1971, which says in its preamble that they are “an integral part of the natural system of the public lands.” Ranchers and state officials who seek unfettered access to western rangelands, however, see them not as integral but rather an impediment. As a result, wild horse numbers are kept artificially low. The Bureau of Land Management is now considering risky ovariectomies of wild mares, despite the availability of effective, far less invasive immunocontraceptives. For more on the BLM's ill-conceived plan, see page 6. Photograph by LifeJourneys.

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## NONTARGET TRAPPING IS KILLING COUGARS

A study by Alyson Andreasen et al., published in the *Journal of Wildlife Management* earlier this year, examined the fate of cougars caught in leghold traps and lethal snares set for other furbearers, particularly bobcats. The results were grim.

Two GPS-collared female cougars were found dead with wounds clearly associated with foothold traps. The researchers believe one was caring for young. She escaped from the trap but left a paw behind, made no large kills afterwards, and died three weeks later. A second was released, but eventually lost two toes from the trauma and starved. Some cougars, upon release, engaged in reduced movement and apparently had to rely on more readily available food sources—domestic sheep and discarded bones from a cattle ranch. The authors concluded that “capture in non-target foothold traps decreases survival of adult female cougars directly by causing injuries that eventually result in mortality, and indirectly by increasing susceptibility to other forms of mortality.”

The research was conducted in Nevada, which provides trappers 96 hours before they must return to steel-jaw leghold traps and other restraining devices they have set. Within the study area, mortality as a result of accidental capture in traps was the second highest killer of adult cougars, behind only hunting. Trappers are supposed to inform the state game agency when this happens, but within the study area, nearly a quarter of such incidents were not reported. The authors called on regulatory oversight agencies to address the traumatic and often deadly impact of nontarget trapping on cougars.

## HUMANS TURNING ANIMALS INTO NIGHT OWLS

Kaitlyn Gaynor et al., in a study published in *Science* in June, found that in areas of high human activity, animals are choosing to conduct more of their own affairs at night. Animals in such areas were 36 percent more active at night as opposed to day compared to animals in areas where human activity is lower. The results were drawn from a meta-analysis of 76 papers and covered

62 species of larger mammals across six continents. The nocturnal shift is occurring irrespective of the type of human activity (e.g., hunting, resource extraction, agriculture, development). What remains to be determined is what effect this turn toward nocturnality will have on the animals themselves and the ecosystems they inhabit, particularly as humans continue encroaching on wildlife habitat.

## TRAP TIME A FACTOR IN SNARED WOLVES' STRESS RESPONSE

Researchers in Portugal (Nuno Santos et al., 2017) studied the live-capture of wolves for ecological research to assess the animals' stress response and the potential benefits of reducing the length of time they are held in traps. Over a six-year period, 15 wolves were captured in Belisle foot snares. The traps were checked twice daily so animals were not held longer than 12 hours. In addition, during the last two years of the study, remote satellite transmitters that signaled when a trap was tripped were used to further reduce the time the wolves spent in the snares.

Radiotelemetry on the wolves after their release revealed that they traveled significantly shorter distances on the first days after having been snared, and that the longer they were snared the longer it took them to get back to traveling greater distances. The study concluded that use of transmitters to shorten the time in snares “significantly reduces several physiological and behavioral mediators of stress.”

*Twice, this Nevada cougar was caught in traps, losing claws and suffering a mangled paw. Though released, she was unable to pursue wild prey, turned to livestock, and was eventually shot by a rancher.*



TOM KNUDSON

*A provision in the House version of the defense bill would have blocked any Endangered Species Act listing of the lesser prairie-chicken for the next 10 years. The provision was removed in conference.*

## IVORY BAN PASSES IN ILLINOIS

In May, the Illinois legislature passed HB 4843, a bill introduced by Rep. Martin Moylan (D) to restrict the sale of ivory and rhino horn within the state. On August 14, Gov. Bruce Rauner (R) signed it into law. State restrictions on the legal sale of ivory and horn help reduce the market for smuggled ivory and horn. Illinois plays a role in this trafficking, which has resulted in the tragic deaths of so many African elephants and rhinos, as well as wildlife officials: US Fish and Wildlife seizure data indicate trafficking of ivory through the Port of Chicago.

## CHIPPING AWAY AT THE ESA

Both Congress and the Trump administration continue their assaults on wildlife, particularly through efforts to undermine the Endangered Species Act (ESA). Several members of Congress have now packaged together nine bills to dismantle the ESA under the laughable guise of “modernizing” it. Together, these bills would make it easier to remove protections from listed species, deprive citizens of the right to challenge these actions in court, make states—with fewer resources—assume greater responsibility for species protection, and even allow the USFWS to throw out listing petitions when the agency decides there is a “backlog.”

Meanwhile, the US Fish and Wildlife Service and the National Marine Fisheries Service have teamed up to weaken several critical components of



NICK RICHTER/USDA

the law. Through regulatory changes, they have proposed to (1) reduce protections for threatened species, (2) make it more difficult to ensure that imperiled species have sufficient habitat to support recovery, and (3) undermine the consultations agencies must conduct to ensure that their actions will not adversely affect listed species or their habitats.

### What You Can Do

It is urgent that anyone concerned about the long-term survival of wildlife take action against these attacks on the ESA. Urge your US representative to oppose bills that would weaken the ESA: [www.awionline.org/esa-doi](http://www.awionline.org/esa-doi). Also, the USFWS and NMFS are accepting comments on the proposed regulations. Prior to the September 24 deadline, please use AWI's online Compassion Index to send comments to these agencies telling them to abandon this anti-ESA proposal: [www.awionline.org/esa-fws](http://www.awionline.org/esa-fws).

## OFFENSIVE RIDERS STRIPPED FROM DEFENSE BILL

On a positive note, one effort to use a critical (and completely unrelated) piece of legislation to erode the ESA failed decisively. The bill in question is the National Defense Authorization Act (NDAA), which sets the budget for US defense activities. Thanks to members of the House and Senate conference committee—as well as a number of other members of Congress who signed letters in opposition—the NDAA went to the president stripped of ESA-damaging language that had been added to the House version of the bill. The House provisions would have prevented the listing of the greater sage-grouse and lesser prairie-chicken for the next 10 years, removed protections from the American burying beetle, and barred citizens from challenging these or any similar actions in court.

A compromise was reached on another anti-wildlife provision in the House bill. Currently, the Navy must conduct an analysis every five years of the harm it causes marine mammals from its training and testing activities. The House provision would have extended that gap to 10 years. The period was instead extended to seven years.

# House Bill Sanctions Surgical Sterilization of *Wild Horses*

A wide range of equine-related issues have come up in Congress this session, and wild horses in particular have been the subject of considerable deliberation among federal lawmakers.

The House Appropriations Committee included language, sponsored by Rep. Chris Stewart (R-UT), in its Department of the Interior spending bill that would push the Bureau of Land Management (BLM) to surgically sterilize wild horses and burros. The Senate's version of the bill does not include such language, so conference negotiations to finalize the spending package for the next fiscal year will ultimately determine whether this provision survives.

Representative Stewart has long argued for allowing the federal government to kill these animals, who are protected under the Wild Free-Roaming Horses and Burros Act of 1971. So while a mass sterilization approach may seem like a step in the right direction for Stewart (or at least a step away from a *terrible* direction), it does raise serious questions. The amendment ignores obvious humane fertility control options for managing herds, such as porcine zona pellucida (PZP)—a cost-effective immunocontraceptive vaccine that can be administered safely. Surgical sterilization, on the other hand, entails a risky and highly invasive procedure that causes significant distress to the animal.

The BLM itself has floated a plan to round up by helicopter all wild horses in the Warm Springs Herd Management Area in Oregon, and then force 100 of the captured mares to undergo ovariectomies via colpotomy—a particularly dangerous surgical procedure in which a mare's ovaries are severed and pulled out while the animal remains conscious, under local anesthesia. The BLM had planned to partner with Colorado State University (CSU) to conduct these surgeries. But after AWI, the American Wild Horse

Campaign, and other groups submitted comments and rallied public opposition, CSU announced in August that it would no longer participate—a severe blow to the BLM's ability to proceed with the plan in the short term.

Proponents of surgical sterilization sometimes argue the process is similar to fertility control methods that have been used to curb populations of other wild animals, such as deer. However, the procedures contemplated here would play out very differently in practice. Deer management has become a significant issue in some US communities, and many local jurisdictions resort to lethal control as the first—and often only—attempt to reduce numbers. In these cases, spaying can provide a viable alternative for animals who would otherwise be killed. Here, on the other hand, we are dealing with animals who are federally protected.





Furthermore, the local nature of such deer-spay efforts, as well as the far more limited geographic area the animals inhabit, allows for more careful monitoring during and after the procedure. (See *AWI Quarterly*, fall 2014.) From a physiological perspective, tranquilizing deer that weigh only a small fraction of a wild horse and then moving the unconscious animals into an aseptic operating area is very different than what the BLM would be attempting.

Indeed, in its 2013 report on improving the management of wild horses and burros, the National Academy of Sciences stated that ovariectomies are “inadvisable for field application” due to the probability of “prolonged bleeding or peritoneal infection.” For an agency such as the BLM, which routinely informs lawmakers and the public that it does not have sufficient resources and funding to effectively manage wild horses and burros, it is hard to imagine how attempting to implement mass surgical sterilizations would help matters.

If the BLM were to move forward with impractical mass sterilizations and the results fell short for any number of reasons (e.g., cost, logistics, medical complications), the failure could provide the latest impetus for lawmakers to renew a push for the BLM to resort to outright culling of the herds in order to reduce numbers.

Fortunately, that is not currently a legal option. In fact, in more positive news out of Congress pertaining to wild horses, the House and Senate appropriations bills have maintained the strong language that AWI has consistently promoted to prevent sale of wild horses for slaughter. Without such basic legal protections, these horses could

easily be “adopted” by anyone looking to make a quick buck by then unloading them into the horrific horse slaughter pipeline that leads to Canada and Mexico.

Even with such a prohibition in place, the BLM—due to its lax oversight—abetted the sale of approximately 1,800 wild horses from 2008 to 2012 to a Colorado rancher who then sold them for slaughter. The buyer, who willfully misstated his intentions in purchasing the horses from the BLM, was not even prosecuted. (See *AWI Quarterly*, fall 2015.) Following this debacle, the BLM instituted a policy that allowed an individual to purchase no more than four horses at one time, with a wait time of six months per transaction. Unfortunately, in May, the Trump administration quietly reversed the policy, and now allows purchasers to buy up to 25 horses, with no wait time—making it far easier for “killer-buyers” to skirt the law.

The plight of free-roaming horses across the United States is widely known, but the BLM does not appear to be any closer to reaching a satisfactory solution for ensuring that these herds are allowed to thrive in their natural environments. Constant removals are a massive drain on tax dollars, and such efforts perpetuate an unsuccessful model that subjects tens of thousands of horses to inhumane roundups and crowded living conditions.

AWI continues to advocate for the preservation of these animals through legislation that strengthens and augments the protections provided by the Wild Free-Roaming Horses and Burros Act, and works to ensure that the interests of livestock producers are not favored over the interests of the wild horses and burros who live on the range. 🐾

# Thirst for Oil May Finally Despoil ANWR

The Arctic National Wildlife Refuge (ANWR) is a wildlife haven located in northern Alaska that encompasses one of the world's last remaining intact arctic tundra landscapes. Originally designated as a refuge in 1960, ANWR is a region of stunning biodiversity characterized by rolling tundra, braided rivers, wetlands, estuaries, and seashores that provides habitat for around 700 species of animals and plants, including 37 land mammals, eight marine mammals, 42 fish species, and more than 200 migratory and resident bird species.

The sanctity of ANWR's fragile ecosystems, however, may be coming to an end. While much of the refuge was designated as wilderness, a critical area—ANWR's coastal plain—was not. The coastal plain is a vital breeding and birthing ground for many species. This area has long been coveted by industry because of the potential oil and gas reserves beneath its surface. Yet, despite decades of attempts to open the area to drilling, the coastal plain has remained undeveloped and pristine.

All this changed in December 2017, when Secretary of the Interior Ryan Zinke, pursuant to a provision in the Tax Cuts and Jobs Act (Tax Act), proposed to open the coastal plain for oil and gas development. Despite polls demonstrating that approximately 70 percent of Americans oppose such drilling, the Tax Act mandated opening a minimum of 800,000 acres of land to drilling by the end of 2024.

The potential impacts of oil and gas development on wildlife in the coastal plain are alarming. Such impacts include habitat loss, fragmentation, and degradation; increases in mortality; lower reproductive success; and adverse health effects.

The Porcupine caribou herd and the region's polar bears are particularly vulnerable. The herd migrates to ANWR's coastal plain during calving season, a long-distance journey it has undertaken

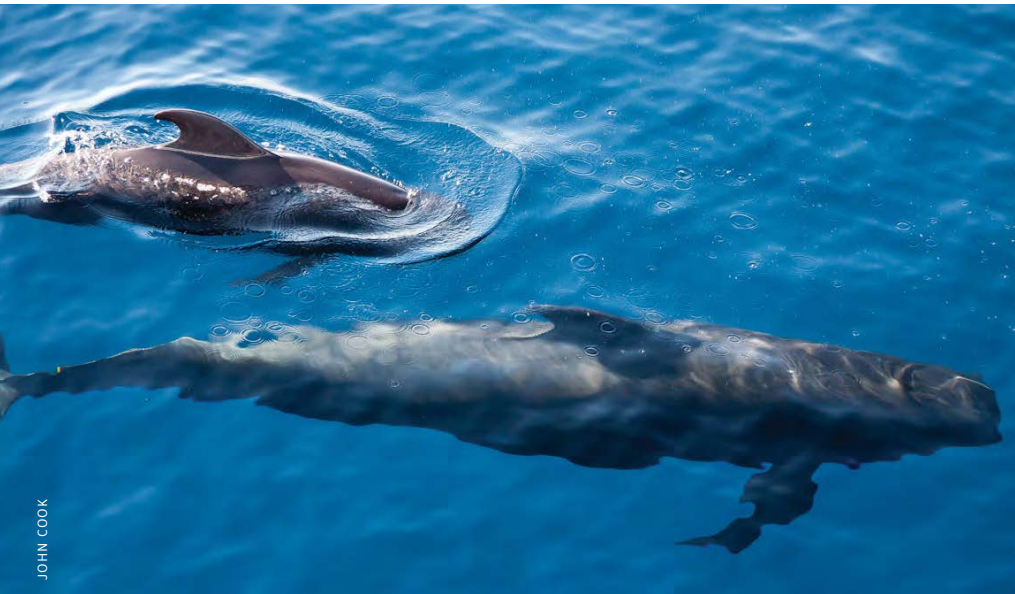
for thousands of years. Numerous studies have shown that industrial activity disturbs caribou, altering their behavioral patterns and decreasing calf survival.

For polar bears, the coastal plain hosts the highest density of dens in Alaska and represents a critically important birthing area. Studies indicate that denning polar bears disturbed by oil and gas development activities may abandon dens before their young can survive the winter.

To initiate the opening of the coastal plain, the Bureau of Land Management solicited public input on the issues it should address concerning the environmental impacts of oil and gas development. In response, AWI identified a variety of issues that the agency must consider, including the impact on wildlife, climate change, air and water quality, and indigenous communities.

According to the US Geological Service, the coastal plain may contain 4.3 to 11.8 billion barrels of oil. With Americans consuming 7.2 billion barrels of oil per year, ANWR may provide, at most, another 7 to 20 months of oil. Degrading a pristine environment and harming numerous wildlife species to feed a small part of our energy needs is shortsighted, particularly when—given climate change and the pollution associated with fossil fuel development and use—we should be moving away from a fossil fuel-based economy. 🐾





JOHN COOK

*Short-finned pilot whales off the coast of Morocco. These animals can suffer great harm from loud noises such as those generated by sonar. AWI participated in a June UN meeting to address the effects of anthropogenic ocean noise on marine mammals.*

## KEY COURT VICTORY FOR VAQUITA

In March 2018, AWI and allies filed a lawsuit in the US Court of International Trade to force the Trump administration to uphold provisions in the Marine Mammal Protection Act (MMPA) that require the US government to ban seafood imports from foreign fisheries that kill marine mammals at a rate that exceeds US standards.

The lawsuit sought to compel the administration to block entry of all fish and fish products from Mexican commercial fisheries that use gillnets within the Upper Gulf of California—home to the critically endangered vaquita porpoise. Vaquita become entangled in the nets and are killed as bycatch in these fisheries, placing the species on the brink of extinction.

On July 26, Judge Gary S. Katzmann agreed that an embargo is indeed legally required and ordered the administration to ban seafood imports from Mexico caught with gillnets in the Upper Gulf. It is estimated that in 2017 alone, the United States

imported more than 1,400 tons of gillnet-caught fish and shrimp from the region, valued at roughly \$16 million. The court cited expert statements that “extinction is ... inevitable unless gillnets are completely removed from vaquita habitat,” and that “even one more bycatch death ... threatens the very existence of the species.” As few as 15 of the animals may remain. AWI sees this ruling as a vindication of a key objective of the MMPA, ensuring that the US market will not hasten the extinction of an endangered species.

## AWI AT UNITED NATIONS OCEAN NOISE MEETING

AWI’s Susan Millward participated in the 19<sup>th</sup> meeting of the UN Open-Ended Informal Consultative Process on Oceans and the Law of the Sea, held in June in New York, where the topic was anthropogenic ocean noise. During the week-long meeting, Susan chaired a side event on managing ocean noise on the high seas through a negotiated agreement. The UN is currently conducting negotiations on how to

manage the high seas; since ocean noise is a transboundary, multisource pollutant that affects all types of marine life, this event was timely—as evidenced by the standing-room-only crowd. The outcome of the Consultative Process meeting will be discussed by the UN General Assembly in the fall, where we anticipate that a resolution will emerge that outlines next steps.

## ICELANDIC WHALERS KILL RARE HYBRID WHALE

In July, observers perched on top of the hillside overlooking Iceland’s Hvalur fin whaling station noticed that the large whale being dragged up the slipway looked different. The whale was a mottled grayish-blue color and had a dorsal fin of a different size and shape than a fin whale’s. Experts speculated that Whale 22 (the 22<sup>nd</sup> fin whale killed in the 2018 season) might be an endangered blue whale, a species protected by Icelandic law and the International Whaling Commission. AWI joined a chorus of voices asking for an immediate DNA analysis. The government of Iceland initially stated that testing would have to wait until autumn, but later relented and released the results on July 19.

Whale 22 was determined to be a rare hybrid blue-fin whale, with a fin whale father and a blue whale mother. AWI has called on the Icelandic government to report the killing of the blue-fin whale as an infraction, and to ensure that all products from the hybrid are isolated and not processed for export.

# IWC67

## KEY DECISIONS, FRACTIOUS DISCUSSIONS FORECAST FOR FLORIANOPOLIS

**THE** agenda for the 67<sup>th</sup> meeting of the International Whaling Commission (IWC67), in Florianopolis, Brazil, in early September, will provide unprecedented opportunities for high-stakes drama and high-level dealmaking. Japan's recent conduct, for example, suggests it is planning a very aggressive strategy to influence the meeting's outcome. Its goal is to get the three-decades-old moratorium on commercial whaling lifted. It is threatening to leave the IWC if it fails.

While Japan attempts to turn back time by reversing the commercial whaling moratorium—one of the most significant and consequential decisions ever made by any international body—other countries have pressing priorities of their own. The United States, the Russian Federation, Denmark, and



St. Vincent and the Grenadines have Aboriginal Subsistence Whaling (ASW) quotas that expire this year and must be renewed. And the host government, Brazil, is hoping for a symbolic election-year win—the adoption of a massive whale sanctuary in the South Atlantic. Adding an additional element to an already perfect storm of a gathering, the former head and veteran of Japan’s delegation to the IWC, Joji Morishita, will chair the busy five-day meeting.

Proposals to renew ASW quotas, create sanctuaries, or authorize commercial whaling require a three-quarters majority vote to pass and thereby amend the International Convention for the Regulation of Whaling (ICRW) Schedule. (The ICRW is the IWC’s founding treaty. The Schedule is an integral part of the treaty that, among other things, sets catch limits.) This means each proposal needs an affirmative vote by 66 of the IWC’s 87 member governments to succeed. The IWC is closely divided between pro- and anti-whaling nations, with the balance favoring the conservation-minded countries for the last several decades, so no proposal can achieve the super-majority it needs without a significant advocacy effort.

Despite Japan’s growing investments in a number of developing countries in Africa, the Caribbean, and the South Pacific—and the concomitant support by those countries for Japan’s position within the IWC—Japan is still far from securing the number of votes needed to overturn the commercial whaling moratorium. The pro-whaling bloc is close, however, to achieving the simple majority needed to adopt resolutions, and it can easily supply a blocking minority against ICRW Schedule amendments. Indeed, Japan and its IWC allies have blocked all previous South Atlantic Sanctuary proposals and, when Japan hosted the IWC meeting in 2002, its faction

dramatically prevented the renewal of ASW quotas for native hunters in the United States and Russia. The quotas were reinstated at an emergency intersessional IWC meeting later that year, but the Alaskan whalers continue to fear that Japan will wield its influence over their lives again, which contributes to increasing tensions in the lead up to this meeting.

Although IWC rules require commission chairs to execute their authority impartially, Japan signaled early in Morishita’s two-year tenure (which began in 2016) that it intended to exploit the position at the 2018 meeting. At a 2017 press conference in Tokyo to announce a newly enacted national law that promised to underwrite the cost of Japan’s whaling operations, a senior official warned that “the new Japanese chair will take the opportunity next year to promote debate on a resumption of commercial whaling.” Prime Minister Abe of Japan then announced in early 2018 that “we will pursue all opportunities to resume commercial whaling at the earliest opportunity, including at the IWC Plenary Meeting in September.” In June, Japanese government officials threatened to “consider all options”—including leaving the IWC—if its proposals for discussion at IWC67 are unsuccessful.

This is an aggressive escalation from recent IWC meetings where Japan has (unsuccessfully) proposed that the IWC keep the whaling ban in place for most stocks but allow hunting on a population of minke whales in its domestic waters. In contrast, this year Japanese officials are pointing to increasing populations of humpback and minke whales in the Antarctic and seeking to resume commercial whaling on “abundant” whale species. Its allies in this bid to return to the days of the commercial slaughter of great whales will likely include Iceland and Norway—whose commercial whalers have

expressed interest in hunting North Atlantic humpbacks—and a number of other countries that have been persuaded to join Japan’s entourage.

Furthermore, Japan wants to change the IWC’s rules relating to voting—proposing to establish a special committee that can adopt ICRW Schedule amendments by a simple majority. This would violate the treaty; the ICRW requires Schedule amendments to be adopted by a three-quarters majority and it would take a unanimous vote to alter that rule. Nevertheless, this illustrates Japan’s bellicose intentions—at the very least to disrupt the meeting with arguments about procedural rules, over which its recent commissioner will preside.

## OTHER PRIORITIES

Although the various proposals to amend the ICRW Schedule will inevitably dominate the meeting, the IWC has much else to accomplish in five short days of its plenary and the preceding few days of technical meetings.

An important priority for AWI is making progress on efforts to reform governance of the IWC. Signed in 1946, the ICRW is one of the world’s oldest international conservation agreements, and many of the IWC’s practices and procedures are outmoded—such as rules that make scientific and technical meetings confidential. Embargoes on discussions about the size of whale populations or violations of hunting provisions may have been appropriate during the commercial whaling era when countries were seeking competitive advantages over each other, but they make the IWC look anachronistic and insular today, especially compared to more modern treaties like the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

In an attempt to address such issues, at its last meeting in 2016 the IWC commissioned an independent review of its governance arrangements, explicitly seeking comparisons with equivalent multilateral environmental agreements. The resulting analysis provides a blueprint for the changes to the IWC's structure and procedures necessary to modernize its operations and functions. At this meeting, the IWC may start adopting some of the reviewers' initial recommendations, while agreeing to a process for review and potential adoption of more fundamental changes later. AWI and other nongovernmental organizations (NGOs) have been actively involved in this process—a result of parallel efforts to enhance the participation of NGOs in the IWC's work—and look forward to collaborating with governments and the IWC secretariat to advance reforms.

The IWC also has a full conservation agenda to tackle, including an important new initiative to reduce the number of whales who die or are injured as a result of entanglement in fishing gear. There has been widespread acknowledgment within the IWC of the significance of bycatch as a threat to global cetacean populations and as a welfare concern. AWI, as a member of the Bycatch Mitigation Working Group, will be advocating for the IWC to

endorse a proposed work plan, so that the group can begin to apply the IWC's unique knowledge of cetacean science, conservation, and management toward the development of solutions for this global problem, which kills hundreds of thousands of whales and dolphins every year.

In addition, there will be discussions about research efforts to better understand—and thereby preserve—the ecosystem functions performed by healthy populations of cetaceans, including mitigating climate change by sequestering carbon and increasing ocean productivity. (See *AWI Quarterly*, fall 2017.) The IWC is also expected to consider a resolution on anthropogenic ocean noise, a recent topic of discussion at the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea, in which AWI participated.

As the IWC's vision of itself evolves—from a quota-setting, whaling management regime into a modern conservation agreement capable of tackling the range of threats faced by cetaceans today—its Scientific Committee must change too. That means shifting its focus (and funding) away from determining how many cetaceans can be hunted toward studying what they need to survive in

the face of increasing anthropogenic threats, including noise, discarded plastics, and warming seas. It also means empowering the IWC's Conservation Committee, which has taken on an expanded role and agenda in recent years—without the benefit of a commensurate increase in financial and logistical support.

It is the role of the IWC chair to devise the meeting agenda and determine the time and techniques needed to bring the members to consensus. We expect Chairman Morishita to utilize new procedures agreed to at the last IWC meeting in 2016, including the use of “breakout” groups to negotiate difficult issues, and hope that, like his predecessor, Morishita will include NGOs in these groups. This would ensure transparency and accountability as well as allow the breakout groups to avail themselves of the NGOs' significant expertise.

## INDIGENOUS WHALING

One item that may not find easy consensus is a proposal to renew expiring ASW quotas, which also includes major changes to the IWC's rules and process for managing such whaling. An ASW working group that met recently in Utqiagvik (formerly



### AWI REPORT ON SMALL CETACEAN SLAUGHTER WORLDWIDE

AWI has joined forces with ProWildlife (based in Germany) and Whale and Dolphin Conservation on *Small Cetaceans, Big Problems*, a report that documents hunts of small cetaceans throughout the world. About 100,000 dolphins, porpoises, and small whales are killed every year by fishers from many countries—not only for food but also as bait to catch sharks and other fish. Some are even killed because they are seen as competition for fish. AWI will use the report to inform stakeholders and decision-makers in various multinational environmental agreements. We hope that this will lead to more action to address these hunts through international agreements and entities such as the Convention on Migratory Species and the International Whaling Commission.

Whale meat in Ilulissat harbor on Greenland's western coast. Greenland, which receives aboriginal subsistence whaling quotas, is seeking the right to hunt minke whales year round.



PATRICK MÜLLER

Barrow), Alaska, one of 11 Alaskan whaling villages recognized by the IWC, considered ways to streamline the process by which countries document the cultural, nutritional, and subsistence needs of their indigenous whalers. While some changes are sensible, as they would simplify the IWC's review process, AWI takes issue with the underlying rationale cited for liberalizing the granting of ASW quotas.

At the 2016 meeting, the IWC considered recommendations from a 2015 "expert workshop" focused on the rights of indigenous people. The workshop's report met with resistance from some NGOs and IWC members, as it oversimplified the legal status of indigenous peoples' rights; specifically, it did not acknowledge that, while such rights are well established in international law, they are not *absolute*—that is, they do not exist above and beyond all laws and they do not override the IWC's fundamental obligations to conserve whales. A subsequent independent legal analysis confirmed that the IWC adequately implements indigenous rights through its existing ASW regime and concluded that it can impose reasonable and objectively justified limits on those rights, such as capping the number of whales that can be killed; requiring documentation of nutritional, cultural, and subsistence needs; and establishing reporting requirements.

In addition to proposing a renewal of all existing ASW quotas (with increases for Russia and Greenland), the ASW countries, led by the United

States, are seeking the adoption of a new measure that would allow indigenous hunters to increase the number of whales they can annually strike (hit, but not necessarily kill and land) by carrying forward unused strike allowances from previous quota blocks. While this might not have conservation impacts (since the models used to calculate safe catch limits assume that all whales in the original strike allowance are dead at the end of the quota block), allowing hunters to carry over strikes and thus strike more whales in a single year does have serious welfare implications. Hunters could become less efficient or careful when hunting whales, as there would be additional strikes available to compensate for a lost whale.

The IWC will have to decide whether to authorize a proposal from the United States that would allow some ASW quotas to roll over automatically every six years instead of requiring an affirmative decision of the IWC for reauthorization. AWI believes this proposal is inconsistent with both the ICRW's provisions for adopting Schedule amendments and the IWC's rules of procedure.

Greenland is seeking to extend its minke whaling season to allow a

year-round hunt and is requesting the lifting of a prohibition on hunting fin whales less than 55 feet long (younger whales, generally). AWI has concerns about both proposals, given Greenland's persistent underreporting of the length of the fin whales it takes and its known propensity for taking far more female minke whales than males in some areas (3 to 1 since 2004). If hunting extends into periods of the year when there are naturally more females in those areas, an unsustainable number of females could be taken.

AWI will have three experienced representatives at the meeting. It has also secured funding to ensure that several scientists and animal welfare advocates from developing countries can attend. Our key responsibilities are to (1) ensure that delegates are aware of all relevant welfare and conservation information pertaining to each agenda item and (2) brief and coordinate the large community of animal welfare and conservation NGOs—thus helping to ensure the strongest possible defense in the face of perhaps the most forceful attempt in decades to undermine protection of the world's whales. 🐾



*In the Air and on the  
Ground, AWI's  
Bill Clark  
Heeds the Call  
of the Wild*



When Dr. Bill Clark is not training Kenyan pilots on how to dodge poacher gunfire, enlisting modern DNA technology to combat bushmeat trafficking, or reintroducing once-extirpated oryx antelope to Senegal, he can be found tucking his violin under his chin—halfway between his head and beating heart.

It's a familiar place to be for the AWI international wildlife program specialist, who has spent nearly half a century balancing the intellectual and emotional demands of treating each animal as an individual while preserving the long-term survival of species around the globe.

"We're not putting enough effort into accommodating the other creatures who share this planet with us," said Clark, his voice as soft and mellifluous as that of the songbirds fluttering in his suburban Virginia backyard. "Too often, we resort to a gun."

A retired chairman of Interpol's Wildlife Crimes Group, Clark has coordinated operations that netted more than 1,000 arrests across Africa and resulted in the seizure of tens of thousands of carved ivory pieces, along with weapons, bushmeat, sea turtle shells, and leopard skins.

Clark has also facilitated donations of essential equipment and training to African wildlife law enforcement officers. Through his efforts, they learned how best to interrogate poachers involved in sophisticated organized crime rings and to present and defend their evidence in court. "It's not some mom and pop poaching," Clark said. "They have poaching gangs that are like hit squads." One of his trainees exposed "Queen of Ivory" Yang Feng Glan, who is among Africa's most infamous ivory traffickers and who was subsequently arrested in Tanzania.

David Higgins, Clark's former boss at Interpol, described him as a vital, resilient leader who has maintained his humility. "Without Bill's leadership and drive to keep the global network together and productive, I doubt we would be seeing the response to tackling wildlife crime today," Higgins said. "There would simply be no network for enforcement to engage."

A defining moment in Clark's career came in 1989, when he acted as the primary author of the successful Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) proposal to list all elephants on Appendix I, effectively ending the legal international trade in elephant ivory.

At the time, a ton of ivory commanded \$100,000 and many countries were reluctant to abandon a lucrative market. Clark had spent the previous decade lobbying hard for an Appendix I listing, a period during which hundreds of thousands of elephants and hundreds of park rangers fell victim to the

poachers' military-style assault weapons. Before the vote, Clark made a last-ditch appeal to CITES delegates while they were wined and dined in the Swiss Alps. In the end, a two-thirds majority supported his measure. Euphoric, Clark danced in the aisle, hooting with his arms held high.

Early on, Clark cultivated a deep respect for all creatures. A South Bronx native, he recalled gazing out his bedroom window at the searchlight beaming from Rikers Island. Below, the sidewalks were littered with broken glass and greasy, wadded-up newspapers. A move to rural Newtown, Connecticut, when he was 9, however, offered plentiful interactions with wild animals.

In the spring of 1959, a judge in town killed a mother fox on a hunting trip, yet felt sympathy for her three orphaned cubs. So he scooped them up and brought them to a local high school teacher, who gave one to Clark, who named her Khrushchev "because she was red." Clark hand-reared her until she graduated to leftovers. She resided in a pen in the backyard—free to roam during the day but always returning for supper.

Khrushchev had an independent mind and her own preferences, the teenager learned. "She'd eat everything except peas." She hung around for a couple of years until Clark enlisted in a Marine Corps infantry unit and was shipped off to Okinawa and Vietnam. Khrushchev, meanwhile, found her home in the woods. The relationship with the fox set Clark on a path of bonding with creatures demeaned by some as vermin.

The lance corporal left the Marines in 1967 with an honorable discharge. Clark was intent on pursuing a law degree to learn how to resolve conflicts peacefully and justly. Yet on his first day of law school, his professor informed the class: "Anyone interested in justice should go across the street to the philosophy department." Disappointed by this proclamation, and by the fact that many of his classmates were more mercenary than his fellow soldiers, Clark spent his weekends volunteering in the San Francisco Bay, collecting seabirds coated in oil from the nearby refineries and washing them off with detergent.

The experience solidified his interest in field biology, leading to graduate-level study at New York University. While there, Clark worked as a reporter and editor for a daily newspaper in Danbury, Connecticut, finding ways to incorporate animal voices into his articles. When a nearby town was deeded an island full of nesting geese, Clark asked one of the residents if she supported sparing the island from development. "She replied with a wry smile and honk in agreement," he recalled of his feathered interview subject.

Later, Clark, a longtime volunteer with the Israel Nature Reserves Authority, was recruited to run a 3,000-acre breeding



and reacclimation center called the Yotvata Hai-Bar Nature Reserve in southern Israel. While there, Clark worked to reintroduce the white oryx, a medium-size antelope with long straight horns that had been decimated by hunters. Eight oryxes were initially shipped from American zoos; nearly 40 years later, about 170 roam the Negev desert. Members of a related species, the scimitar-horned oryx, were later transported from the reserve to Senegal—trading their Hebrew names for Wolof—to reestablish a population that numbers nearly 500 today.

The stomping, snorting wild ass proved more challenging, Clark remembered. They breed slowly and some of the bachelors raided the melon and tomato patches belonging to a nearby kibbutz. A few of the resident ostriches met a worse fate: They wandered across the Jordanian border, only to be gunned down.

Clark spent his days trying to teach his hundreds of charges how to adapt to the blistering heat and remain wary of predators. He blew tractor horns and beat pots and pans to keep the wolves away from their fenced enclosure. He chronicled his experiences in his 1989 book, *High Hills and Wild Goats*.

Clark recalled one scimitar-horned oryx, dubbed “Napoleon,” who was convinced that he was the dominant male of the herd. He often picked fights with the younger males, depending on Clark to patch up his wounds. Soon after, he would escape his pen and go back for more. As Napoleon aged, Clark found ways to satisfy his thirst for battle. Using a broomstick, he playfully whacked the animal’s horns and the pair would go at it for 10 minutes or so. “We did that until the day he died,” Clark recalled. “Even herd animals are all individuals.”

Growing up at a time when *The Origin of Species* was banned in high school biology classes, Clark has carried Darwin’s words in his wallet for four decades: “Natural selection works solely by and for the good of each being.”

He disagrees with “hard releases” used in many reintroduction projects, when animals are given only a couple months to get adjusted to their new environment before they are pushed into the wild. “You’ve got to think in generations,” Clark said. “You’ve got to rehabilitate the habitat and do it very gently.”

Nothing escapes Clark’s watchful eye, including animal waste. In April, AWI honored Dr. Samuel K Wasser, acknowledged worldwide for developing noninvasive tools for monitoring human impacts on wildlife, with its Schweitzer Medal. The prestigious award recognizes outstanding achievement in the advancement of animal welfare. (See *AWI Quarterly*, summer 2018.) Most notably, Dr. Wasser used elephant dung to assemble a DNA reference map of elephants across Africa, which is now widely used to determine the geographic origins of poached ivory.

As Wasser’s mentor for more than a decade, Clark recognized early on the value of DNA analysis in identifying Africa’s largest elephant-poaching hotspots. “Bill is among the most insightful people I know when it comes to investigating wildlife crimes,” said Wasser, who has co-authored multiple research papers with Clark. “There is a rarely an important case I am working on that I fail to ask Bill’s advice. When he does give advice, he always hits the nail on the head and often provides an angle I’ve failed to consider.”

A recognized expert in his field who has received multiple international awards, Clark delivered testimony in 2008 to the US House Committee on Natural Resources on “Poaching American Security: Impacts of the Illegal Wildlife Trade.” Two years later (and six years before AWI’s extraordinary good fortune in having Clark join our staff), he received AWI’s Clark R. Bavin Wildlife Law Enforcement Award to honor his dedication to wildlife protection and biodiversity. In Senegal, he was knighted by the president, receiving the *Chevalier de l’Ordre du Merite*.

Today, Clark serves as an honorary warden and US liaison to the Kenya Wildlife Service (KWS) as part of a collaboration dating to the 1980s. A trained commercial pilot, Clark has

*Above: Simba the lion cub lost her mother to poachers and was rescued by KWS rangers. Clark himself flew her to the wild animal orphanage in Kenya’s Nairobi National Park.*

*Following page, left: Wendi (which means “hope” in Meru) was just one day old when poachers claimed the life of her mother in 2007. The infant was brought to the orphanage and, against expectations, survived. Today, Wendi is part of a wild herd of elephants in Kenya’s Tsavo East National Park.*

*Following page, right: Clark worked with the team that rescued this plains zebra foal and brought her to the orphanage.*

arranged for advanced training for Kenyan surveillance pilots using refurbished surplus planes purchased as scrap from the Israeli Defense Forces. Pilots learn how to safely fly low while scouting for poachers hiding under trees, or to follow the vultures circling carcasses. With funding from AWI, Clark has supplied KWS with night-vision equipment and Israeli-trained dogs, who immobilize poachers without killing them.

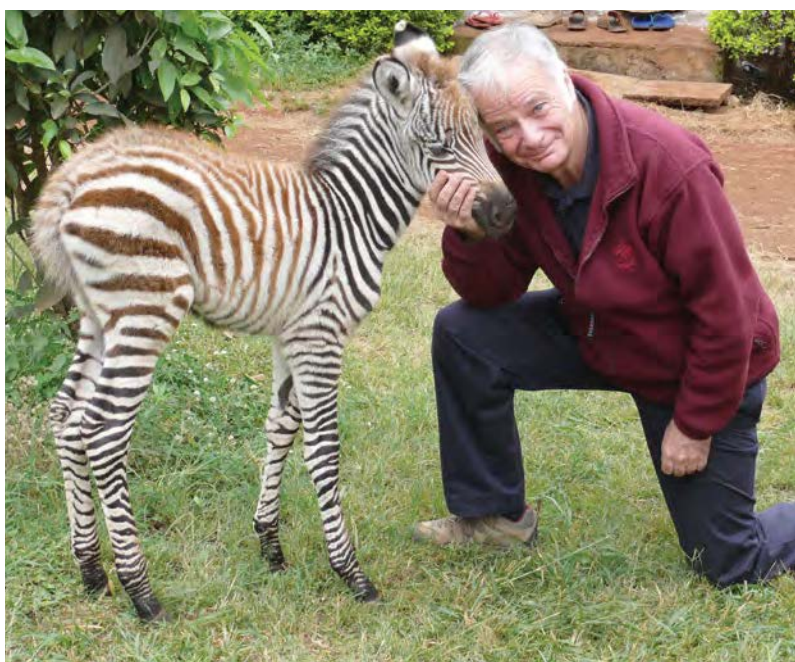
KWS has enjoyed reasonable success in suppressing the bushmeat trade through vigorous patrols, tips from the public, and ongoing monitoring of markets. Before DNA analysis came into play, bushmeat dealers could circumvent the law by instructing poaching gangs to deliver red meat only. That meant cutting away all “morphologically identifiable” parts used by biologists to determine whether the specimen came from a protected species. AWI and other organizations have supported the creation of a DNA forensics laboratory in Nairobi to aid in the effort, along with expanding Manyani, Africa’s only wildlife law enforcement academy, located in Tsavo West National Park. (See *AWI Quarterly*, spring 2016.) The KWS patrols serve as a major deterrent; no elephants or rhinoceroses have been poached in Kenya during daylight hours over the past five years.

Clark and AWI are also working with the Senegal National Parks Directorate to rescue a portion of the Sahel, a band of semi-arid grassland stretching between the vast sands of the Sahara Desert and the dense foliage of the Congo rainforest. Spanning more than 3,300 miles, the Sahel has succumbed to armed conflicts, famine, and wildlife decline. Clark’s mission

is to carve out a new protected zone roughly the size of New Jersey, while supporting community development in the area. (See *AWI Quarterly*, fall 2017.)

In Ghana, Clark and AWI are partnering with the country’s Wildlife Department to move illegally trafficked African grey parrots into a “halfway house” located in their natural habitat. Ghana has lost more than 90 percent of its African greys over the past decade, according to Clark. Smuggled birds often die from suffocation. The “lucky” ones are seized by law enforcement, but may wind up in cages at zoos due to a lack of rescue centers. (“A bird ‘in a cage puts all heaven in a rage,’” Clark intoned, borrowing a line from a William Blake poem.) The ultimate aim of the project, he said, is to set the birds free in the land from whence they came. Meanwhile, hundreds will remain in the rehabilitation facility until they are judged to be physically and behaviorally fit for release.

At 75, Clark jokes that he has “one foot in the cemetery and another one on a banana peel.” Kidding aside, he still works hard and enjoys the thrill of flinging himself across the sky as an aerobatics pilot or surveying the monarch butterflies laying eggs on the milkweed in the garden he tends with his wife, Judith (an artist). He also has two grandchildren to keep him occupied... and to remind him why it’s important to preserve the Nature that he holds in such reverence. (“Nature” is a proper noun in Clark’s view, deserving of a capital N.) And humans, he believes, have a duty to be more benevolent to Nature’s denizens—allowing them to retain their wild qualities while keeping them safe in the place where they belong. 🐾



## Determining an Efficient and Effective Rat Tickling Dosage

Megan R. LaFollette, Dr. Marguerite E. O'Haire, Dr. Sylvie Cloutier, and Dr. Brianna N. Gaskill

Laboratory rats may experience distress during handling, which can negatively impact their welfare. Rat tickling, a handling technique that mimics aspects of rat rough-and-tumble play, has been found to induce positive affect based on production of 50-kHz ultrasonic vocalizations (USVs). However, current protocols for rat tickling are time-intensive, making its practical implementation difficult. Our objective was to identify a time-efficient and effective dosage of rat tickling. We hypothesized that affect (i.e., emotional state) and handling can be improved by small, daily doses of tickling within a five-day workweek. The study was funded through an AWI Refinement Grant.

Seventy-two rats (both male and female) of the Long-Evans strain, housed in same-sex pairs, were sampled. Each cage was randomly assigned a tickling duration (15, 30, or 60 seconds per rat) and frequency (1, 3, or 5 days). After the final day of tickling, rats were tested for ease of, and reaction to, handling via a saline injection following a tickling session for their assigned duration. On test day, we measured USVs, home cage behavior (60 minutes before and after testing),

approach behavior (30 seconds before and after testing), and fecal corticosterone (a noninvasive method for determining stress hormone levels). Periods before and after testing measured anticipatory and reactionary responses, respectively. Behaviors included play, activity, location, and indicators of fear or anxiety such as rearing and contact with the hand.

Results showed that, regardless of tickling duration, rats tickled for three or five days produced a higher rate of 50-kHz USVs *before* and *during* tickling, and played more and were less inactive in their cage for the hour before tickling and injection compared to rats only tickled for one day. Approach behavior, injection duration, and fecal corticosterone were unaffected by either tickling duration or frequency. There were few differences in outcomes between a tickling frequency of three or five days.

In conclusion, we found that tickling duration did not alter any measures

and that a three-day tickling frequency was more efficient and effective than a one-day frequency but similar to a five-day frequency, based on increased 50-kHz USVs (a measure of positive affect) and positive anticipatory behavior, including play. Therefore, we conclude that a time-efficient and effective rat tickling dosage is 15 seconds for three days before any potentially aversive procedures are applied. Overall, our results suggest that minimal rat tickling can be effective at habituating rats to handling and, thus, preparing them for research procedures. 🐾

*Dr. Brianna Gaskill is an assistant professor of animal science at Purdue University who focuses on welfare assessment of laboratory animals. Megan R. LaFollette is a PhD student in Gaskill's lab. Dr. Marguerite E. O'Haire is an associate professor of human-animal interaction at Purdue. Dr. Sylvie Cloutier is a research scientist with the Canadian Council on Animal Care.*



GASKILL LAB



BRET R. TALLENT

Five adult male C57Bl/6 mice in long-term housing with a cage divider. Note animals' ability to separate at will into individual spaces. Cage dividers provide burrow-like chambers where mice can escape aggression, express thigmotactic nature, self-separate or commune, and modify their environment.

## Reducing Aggressive Behavior in Mice with the Addition of Cage Dividers

*Bret R. Tallent and Dr. Jonathan Lifshitz*

In this project, funded by an AWI Refinement Grant, we tested whether raising male mice in partially divided cages affected aggression and behavioral performance from weaning through 180 days old in comparison to standard housing. Mice were weaned at 21 days old (Day 0) and randomly assigned to one of two groups: standard cage (Group 1) and cage with partial cage divider of corrugated plastic (Group 2). Each group contained five cages and each cage contained five mice. Animals underwent a battery of behavioral tasks beginning on Day 40 and finishing on Day 70. After resting for 42 days, animals were observed for seven consecutive hours on days 112, 116, 130, 131, 137, and 158. Cage environments were reversed on day 130 by removing dividers from Group 2 animals and adding dividers to Group 1 animals. Observers unaware of the study design and hypothesis scored each video for number and type of aggressive behaviors. During observation periods, animals were weighed and checked for bite wounds and had blood drawn for corticosterone levels (a measure of stress).

Body weight was statistically greater in mice housed with cage dividers compared to standard housing, which is indicative of healthier animals. Mice housed in partially divided cages had equivalent performance to those in standard housing on behavior tasks to evaluate neurological function, except for reduced anxiety in the elevated-plus maze. Bite wounds were

fewer in partially divided cages than in standard cages. When dividers were added to long-established standard cages, the incidence of aggressive events and wounding subsided; when dividers were removed from long-established divided cages, no change in the incidence of aggressive events or wounding was noted. In sum, cage dividers may produce or preserve a hierarchy by providing the opportunity to exhibit submissive or escape behaviors. Compared to baseline, plasma corticosterone values were higher at cage change, but otherwise inconclusive.

Weaning mice directly into partially divided cages significantly reduced aggressive behavior and had persistent effects on behavior and physiology. In addition to reducing aggressive posturing, scuffling, and biting behaviors, cage dividers reduced anxiety in the elevated-plus maze, while not altering other standard neurological task responses. These data indicate animal welfare can benefit from the use of partial cage dividers. 🐾

*Bret Tallent is the manager of the Phoenix Children's Hospital Research Laboratory. Dr. Jonathan Lifshitz is an associate professor and director of the Translational Neurotrauma Research Program at the University of Arizona College of Medicine.*

# ADMINISTRATION REMAKING AWA INTO ANIMAL INDUSTRY WELFARE ACT

ADAM WINTER



The Animal Welfare Act (AWA) is facing a grave threat. The Trump administration is engaged in a multipronged pro-industry agenda aimed at eviscerating the basic protections for animals mandated by this law—which for more than 50 years has enjoyed widespread, bipartisan support from Congress and the public, who understand the need for proper care and treatment of animals by breeders, dealers, zoos, circuses, and research laboratories. The administration is undermining the USDA Animal Care program’s enforcement of the AWA in order to protect the animal users, not the animals being used, while keeping the public in the dark about cruelty and abuse. These changes include the following:

*Historic Lack of Enforcement Complaints:* Since March 2017, Stephen Vaden, principal deputy general counsel (and President Trump’s nominee for the general counsel position), has been the de facto head of the USDA Office of General Counsel (OGC). Vaden is mostly known for his involvement in voter suppression efforts, including legal work supporting a North Carolina law that a US Appeals Court struck down as unconstitutional, stating that it “targeted African-Americans with almost surgical precision.” At the OGC, he has been accused of transferring career employees outside their areas of expertise for political reasons while also causing plummeting morale and a climate of fear among the very attorneys charged with filing crucial AWA enforcement complaints.

During the first 18 months of the Trump administration, the USDA filed just two such complaints—compared to the 59 filed in the 24 months of 2015 and 2016. One of these paltry two was a grossly inadequate complaint filed against notorious former puppy mill operator Debra Pratt. (See *AWI Quarterly*, summer 2018.) Meanwhile, Animal Care’s 2017 *Accomplishment Report* touts “initiat[ing] and subsequently clos[ing] enforcement cases more efficiently” because, instead of filing serious complaints with deterrent value, it is issuing far more stipulated penalties that favor alleged violators with reduced fines while enabling them to evade online public scrutiny.

*Continued Lack of Transparency:* The 2017 *Accomplishment Report* also claims, “We worked hard to reinstate the Public Search Tool after its removal from our website to allow for a comprehensive review of our records.” Really? In fact, more than 90 percent of the inspection records of over 3,000 animal breeders and dealers cannot be tracked online because the USDA has redacted identifying information. (The department feels these regulated entities are entitled to anonymity because they are “homestead businesses.”) Vital enforcement records such as stipulated penalties and pending administrative complaints also remain offline since their removal in August 2016. Although Congress instructed the USDA to restore in full the records it wiped, the department has failed to comply.

*gutting Inspection Standards and Procedures:* Restoring all inspection reports online will mean little, however, if the administration continues its current course of watering down inspection standards and procedures to the point where inspection reports become meaningless.

In May, the USDA released a revised, slimmer *Animal Welfare Inspection Guide* with key provisions omitted and more than 150 pages cut. Some of the most egregious changes involve veterinary care. For instance, the USDA is no longer requiring a written program of veterinary care for licensed operations to be signed by an actual veterinarian. Moreover, the USDA has done away with all mandates for veterinary care plans; instead, it now merely suggests topics that “may be helpful.” Other examples abound of a dangerous dilution of veterinary care requirements, which taken together will have a profoundly negative impact; adequate veterinary care—aided by proper USDA oversight—is fundamental to animal welfare.

The department also appears to be backing away from conducting confiscations as a means to rescue the animals who need USDA intervention the most. Thirty-one pages regarding confiscation criteria from the prior *Inspection Guide* have been reduced to seven lines buried in appendices.

Threats have been made against those who don’t follow the new regimen. The USDA is even reining in its inspectors from detailing their full findings on inspection reports. “Critical” citations—which involve horrific animal suffering—will no longer be included on inspection reports if certain criteria are met.

In fact, inspectors are being encouraged to “work with” rather than cite the facilities. Instead of documenting veterinary care issues, inspectors are now instructed to contact the facility’s attending veterinarian—and if the attending veterinarian and facility claim the issue is being addressed, there will be no citation. As a final straw, licensees and registrants can challenge and further weaken the findings before the reports are finalized.

The USDA is also running a “pilot” program of announced inspections, with the hope they will be “blended” with unannounced inspections—which have been the backbone of AWA enforcement for more than 30 years. Moreover, licensees are now provided with excuses to circumvent unannounced inspections, ranging from informing the inspector of a doctor’s appointment to a “personal event.”

*“Learning Opportunities” in Lieu of Enforcement:* On July 13, the USDA published a bulletin entitled “Animal Care



COURTESY OF IOWA FRIENDS OF COMPANION ANIMALS

Milestones for First Half of FY [fiscal year] 2018.” These purported milestones were contained in an *Animal Care Impact Report*, which touted “learning opportunities,” whereby Animal Care representatives attended “multiple meetings of breeders, exhibitors, and the research community,” and “discussed the issues they face, our oversight role, and the guidance we can provide.” Also highlighted were “45 noninspection visits or calls by specialists to help AWA facilities comply.”

It is a telling indication of the administration’s pro-industry, anti-AWA agenda that “learning opportunities” and “noninspection visits” are counted as noteworthy “milestones” for the entire first six months of FY 2018. Indeed, the grand plan appears to be to turn the USDA from regulator to business partner—limiting “enforcement” to gently admonishing an animal user now and again. The public, meanwhile, is peddled the illusion that the reduction in citations is a result of greater compliance rather than suppressed enforcement.

Granted, AWA enforcement has never been what it should be. Although the department has built up a credible AWA law enforcement infrastructure, it has always been woefully understaffed and underfunded (currently, over 100 inspectors inspect more than 8,000 facilities). And the inspectors, investigators, and attorneys within this infrastructure have always had to report to whatever political party is in power and to endure the pendulum swings between active enforcement and industry appeasement. But this brazen attempt to utterly incapacitate the AWA is something new.

Animal users must not trump the animals who need protection. Please urge your senators and representative to defend and protect the AWA. And vote in November for those who will uphold long-standing, vitally important animal protection laws. The Trump administration’s attempt to eviscerate the Animal Welfare Act cannot be allowed to succeed. 🐾



*Cattle being loaded into a truck for transport. A 2015 industry survey of cattle trucks indicated that some cattle traveled over 1,400 miles over a nearly 40-hour period before reaching their destination.*

CSTAR55

## LIBRARY OF CONGRESS REPORTS ON RITUAL SLAUGHTER LAWS IN EUROPE

In March, the Law Library of Congress released an in-depth report on the legal status of religious slaughter in 21 European nations. The European Union's Council Regulation 1099/2009 and the Council of Europe's Convention for the Protection of Animals for Slaughter both stipulate that animals should be rendered insensible to pain prior to slaughter. However, they also permit individual governments to make exceptions to this requirement for ritual slaughter.

The surveyed countries fall into three categories: those that have banned all slaughter without prior stunning (Denmark, Iceland, Norway, Slovenia, and Sweden); those that mandate post-cut stunning for ritual slaughter (Austria, Estonia, Greece, and Latvia); and those that exempt religious slaughter from the broader sedation requirement provided they meet certain standards (Cyprus, France, Germany, Lithuania, Luxembourg, the Netherlands, Poland, and Spain).

There are also a few notable outliers. Liechtenstein and Switzerland largely

prohibit the killing of vertebrates without prior stunning but permit it for religious slaughter of poultry. Finland mandates that sedation be concurrent with the fatal cut, but legislation is pending that would make even this illegal. In two of its three regions, Belgium has recently outlawed slaughter without prior stunning (though both laws are currently facing challenges before the Belgian Constitutional Court).

By comparison, the US Humane Methods of Livestock Slaughter Act, via § 1906, exempts ritual slaughter and the "handling or other preparation of livestock" for ritual slaughter from its humane slaughter requirements.

## BEEF QUALITY AUDIT SUGGESTS NEED FOR WELFARE IMPROVEMENTS

Every five years or so, the National Cattlemen's Beef Association releases a National Beef Quality Audit, conducted through the beef checkoff program (checkoff programs collect money from producers to fund promotional campaigns and research). The 2016 audit (published in 2017) consisted

of face-to-face interviews with 194 market-sector representatives, in-plant research surveys involving thousands of cattle carcasses at 30 processing facilities across the country, and a strategy session with more than 70 industry individuals.

The audit investigated and drew conclusions about many factors relevant to farm animal health and well-being. For example, in a survey of 10 percent of cattle truck arrivals at 18 plants, auditors found that the maximum time traveled was 39.5 hours over a distance of 1412.9 miles. This time period exceeds the Twenty-Eight Hour Law unless the cattle were offloaded and provided time to rest. Additionally, the transport audit found that the number of lame dairy cattle was 23–24 percent.

The audit included a study of beef carcasses after processing. It revealed that a significant percentage of cattle arrived at the facility with major bruises (45.1 percent of cows and 21.9 percent of bulls). Bruises on cattle are often the result of mishandling and poor processing facility design that cattle experience 24 hours prior to slaughter. This result underscores the importance of humane handling at slaughter.

The audit indicated that the use of hot-iron brands has decreased over the past 25 years, from 45 percent of cattle branded in 1991 to 25.7 percent branded in 2016. Finally, the audit indicated that branding results in a \$0.84 per head loss in value over cattle with no branding.

## PERDUE'S "HAPPY CHICKENS" CLAIM RUFFLES RIVAL'S FEATHERS

The Council of Better Business Bureau's National Advertising Division (NAD) has concluded that claims made by Perdue Farms in a national broadcast advertising campaign were misleading. NAD is a nonregulatory body that provides a mediation process for competitors to challenge unfair or misleading advertising. This challenge, brought by Tyson Foods, alleged that a Perdue advertisement contained claims that its chickens are "happy" and implied that all Perdue chickens are raised organically.

NAD ruled that these claims were misleading to consumers, who may have reasonably believed that Perdue had changed the way it raises all of its chickens or that all Perdue chicken is organic. In fact, only one of Perdue's brands meets organic standards—its Harvestland Organic line. NAD recommended that Perdue discontinue or modify the commercials to make clear that the organic claim clearly applies

only to Harvestland Organic products, not all Perdue products. Perdue has vowed to appeal the decision to the National Advertising Review Board.

## NC LEGISLATURE LETS BIG PORK POLLUTE WITH IMPUNITY

The North Carolina General Assembly gave final approval to a bill that restricts nuisance lawsuits against factory farms and other agricultural operations. The law is a reaction to several lawsuits won by plaintiffs who have been negatively affected by the smell and environmental impact of nearby intensive hog farming operations. (See *AWI Quarterly*, summer 2018.) Initially, the law was vetoed by Gov. Roy Cooper, who stated that the new law put agriculture over property rights. However, the general assembly voted to override the veto just two days later. Local lawmakers paint the law as a victory for local farmers, but in reality the act places profits of large corporations that treat animals and the environment poorly

before the interests of North Carolina citizens who deserve to have access to clean air and water and to not have their homes invaded by the stench and pollution of these large-scale operations.

## INTERNATIONAL BODY ADOPTS PIG WELFARE STANDARDS

The World Organisation for Animal Health (known by its French initials, "OIE"), at its annual meeting in Paris in May, approved a new chapter on the welfare of pigs for inclusion in the organization's Terrestrial Animal Health Code. Veterinary delegates representing 181 member countries approved language that recommends group housing for sows because they are social animals. While the OIE's animal health code is not binding on member countries, governments view it as an authoritative source of animal welfare information.

AWI pushes the USDA to take stronger animal welfare positions at the OIE on behalf of the United States, and it works to influence the OIE as a whole through participation in the International Coalition for Animal Welfare. The coalition, whose membership is composed of 17 national and international animal protection organizations, recently entered into a formal agreement with the OIE to collaborate on improving animal welfare globally through the effective implementation of OIE animal welfare standards and guidelines.

*Perdue's marketing department wants you to believe all its chickens live like this. They don't. The Better Business Bureau found that Perdue's "happy chickens" advertising campaign gave the false impression that the company adhered to higher welfare standards.*



IVONNE W

# USDA BEGINS ENFORCEMENT OF NEW ANIMAL EXPORT RULE

**INTERNATIONAL TRANSPORT** of farm animals by sea vessel is a major animal welfare issue, particularly for long-distance journeys, such as those taken by cattle and sheep from Europe and Australia to the Middle East and North Africa. While little is reported about the involvement of the United States in the practice, AWI has been monitoring international export shipments over the past decade.

Within the last five years, an estimated 2,211,394 live farm animals were exported from the United States to other countries. A majority of these traveled by land to Mexico or Canada; however, a significant portion—545,495, or about one quarter—were shipped to their destinations by sea or air. Evidence indicates that transport by sea is the most dangerous of these three modes. Ocean voyages cover many thousands of miles and can last for weeks or even months.

Press accounts and records received by AWI from the US Department of Agriculture via the Freedom of Information Act (FOIA) show that many of the long-distance exports from the United States are sent via sea if they involve large numbers of cattle, while exports involving smaller numbers of animals are often flown. According to FOIA records, in recent years, nearly all pigs, sheep, goats, and horses have left the country by air, while cattle have traveled by both sea and air.

Many countries import live farm animals from the United States; however, only a few bring in large numbers. The USDA's Foreign Agricultural Service reports that over the last 12 years, the top five importers (apart from Canada and

Mexico) were Russia, Turkey, the United Kingdom, the United Arab Emirates, and China (Figure 1). A pronounced spike in US exportation between 2010 and 2013 was likely due to a temporary demand, chiefly in Russia and Turkey, for the breeding animals necessary to grow their herds of dairy and beef cattle (Figure 2). Since then, the number of cattle being exported outside North America has declined, while exports of horses, sheep, goats, and rabbits have increased.

The Federal Meat Inspection Act (FMIA) specifies that all “cattle, sheep, swine, goats, horses, mules, and other equines intended and offered for export to foreign countries” must be inspected and deemed free from disease prior to their departure. This law allows the USDA secretary to prohibit or restrict the exportation of any livestock determined unfit for transport. Knowledge of this authority, along with several reports of animals shipped from the United States dying during arduous journeys overseas, was the basis for a 2011 rulemaking petition submitted by AWI and the World Society for the Protection of Animals (now World Animal Protection). The petition sought to amend the FMIA regulations to halt exports of animals who are too young, weak, or sick to travel. Four years later, APHIS proposed to overhaul its export regulations and add fitness to travel requirements—incorporating our proposal.

The final rule, which went into effect in February of 2016, has several additional animal welfare safeguards. The USDA adopted the World Organisation for Animal Health's fitness-to-travel standards, which state that animals are unfit if they are unable to stand or bear weight on all four legs, are blind

FIGURE 1. TOP FIVE COUNTRIES IMPORTING LIVE ANIMALS FROM THE UNITED STATES, EXCLUDING CANADA & MEXICO (2005–2017)

COUNTRY	NUMBER OF ANIMALS	PREDOMINANT SPECIES
Russia	238,370	cattle
Turkey	147,363	cattle
United Kingdom	143,714	rabbits and hares; equines
United Arab Emirates	85,135	sheep and goats; equines
China	70,391	pigs

Data Source: Department of Commerce, US Census Bureau, Foreign Trade Statistics, available at [www.fas.usda.gov/gats/default.aspx](http://www.fas.usda.gov/gats/default.aspx). 2/18

FIGURE 2. NUMBER OF LIVE ANIMALS EXPORTED FROM THE UNITED STATES, EXCLUDING TO CANADA & MEXICO (2005–2017)

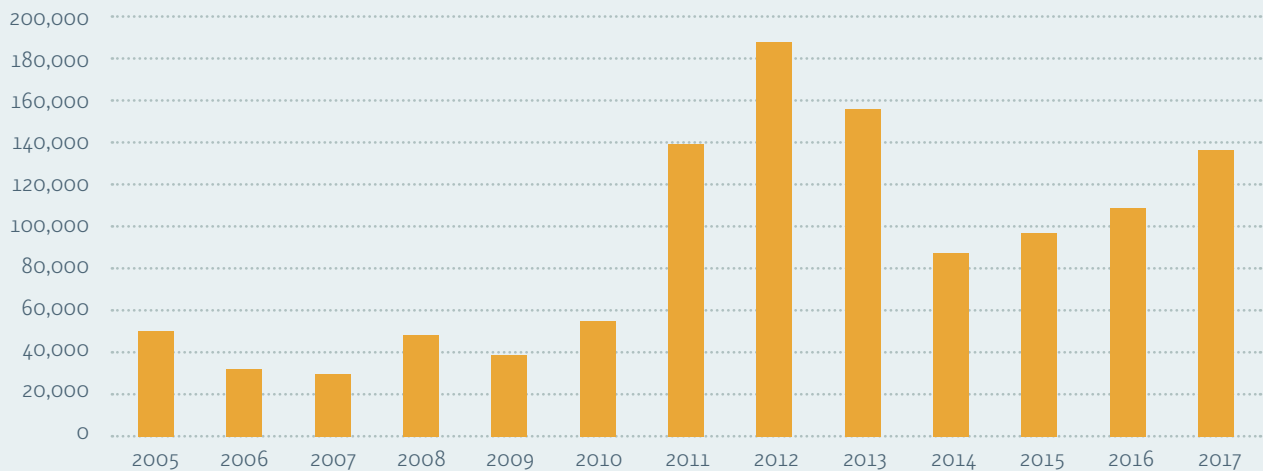


FIGURE 3. US LIVE ANIMAL EXPORT MORTALITIES (FEBRUARY 2016–OCTOBER 2017)

DATE	DESTINATION	SPECIES	VOYAGE LENGTH	NUMBER LOADED	NUMBER OF DEATHS	MORTALITY RATE
March '17	Sudan	female cattle	not reported	1,500	27	1.8%
April '17	Turkey	dairy cattle; female beef cattle	41 days	2,715	27	1.0%
April '17	Georgia	female beef cattle	49 days	450	0	0.0%
April '17	Vietnam	female cattle	37 days	1,294	2	0.2%
May '17	Vietnam	female dairy cattle	21 days	2,161	3	0.1%
July '17	Vietnam	female dairy cattle	21 days	1,634	6	0.4%

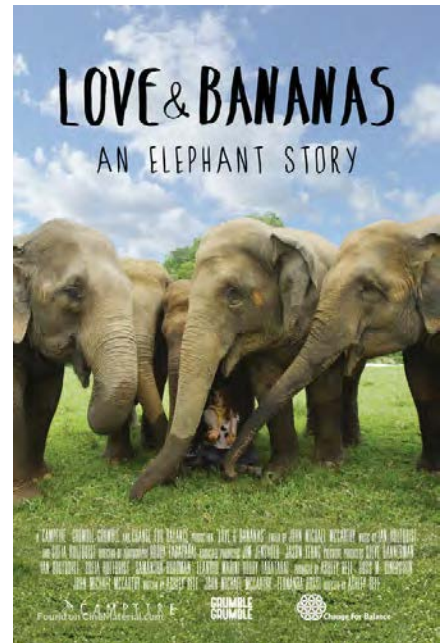
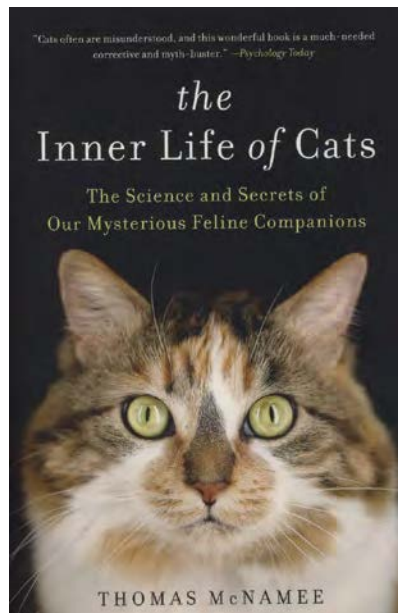
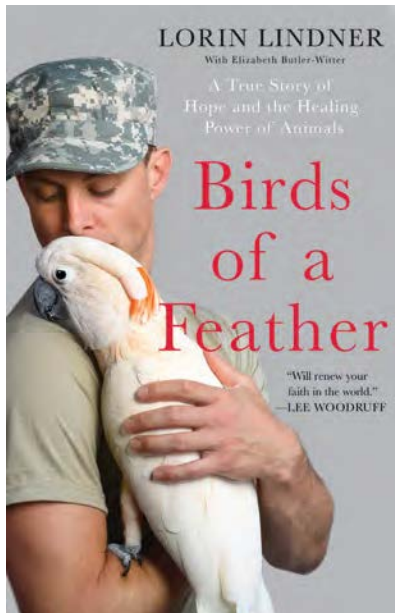
Data Source: Operator Reports, obtained by AWI via FOIA from USDA-APHIS.

in both eyes, have unhealed wounds, are extremely young, or are pregnant and in the final stage of gestation. The amended regulations also require that ocean vessels (1) maintain a means of humanely euthanizing animals who become sick or injured during transport, (2) separate hostile animals, (3) have replacement parts for major life support systems in case of malfunction, and (4) submit a report after each journey with the number of animals who died and the number who became injured or sick during transport.

AWI has attempted to verify enforcement of the new rule by submitting FOIA requests to the USDA. For the period February 2016 through October 2017, AWI received records related to five shipments by sea (spanning five months, March–July 2017). The records raised concerns regarding two shipments in particular: (1) a voyage of unknown length to Sudan in which 27 deaths were recorded, resulting in a

mortality rate of 1.8 percent and (2) a 41-day voyage to Turkey with 27 deaths and a mortality rate of 1 percent (Figure 3). AWI has not determined whether there were in fact only five international shipments during the requested 20-month period, or the USDA simply neglected to send all relevant records. AWI has submitted additional requests to answer this question. Given the limited information received, the extent to which the new export rule is being enforced is unclear, though the reporting requirement has provided at least some mortality data where before there was none.

As it stands, the records indicate that the volume of animals being exported from the United States by sea is low. Although the mortality rate for two out of five journeys was concerning, no egregious incidents appear to have taken place in the wake of the 2016 amendments to the USDA's live animal export regulations. 🐾



## BIRDS OF A FEATHER

Lorin Lindner / St. Martin's Press / 230 pages

The cover of *Birds of a Feather: A True Story of Hope and the Healing Power of Animals*, features a photo of a veteran embracing a parrot, who rests her head on his shoulder. The image suggests to a prospective reader that this book will be inspirational. The book delivers on this expectation and more.

Dr. Lorin Lindner, a psychologist, recounts the story of Sammy and Mango, the rescued cockatoos she adopted in the late 1980s. During this time, she would pass homeless veterans as she walked to work; she began counseling them—then lobbying for better care for them. Eventually, in 1997, Lindner became clinical director at New Directions (now called New Directions for Veterans), which had opened a 156-bed one-year residential treatment facility on the Veteran Administration's West Los Angeles campus. She began bringing Sammy and Mango to work, and the birds developed relationships with many of the veterans.

As the demands of her work at New Directions grew, however, Lindner realized that Sammy and Mango were not receiving enough of her time. She could not always bring them to work.

Parrots need companionship and communication; they need a flock. So, with help from the veterans, Lindner and a friend founded Earth Angel Parrot Sanctuary near Ojai, California, 85 miles up the coast. The sanctuary was a success, but Lindner wanted to bring the veterans and parrots closer together. In 2005, she founded Serenity Park on the VA campus—a place where veterans suffering from post-traumatic stress disorder could help themselves heal while caring for abused and neglected parrots. Robert Kenner, who directed the film *Food, Inc.* and is producing a short film about the birds and people of Serenity Park, calls it “a magical story.”

Notwithstanding the inspirational interactions at Serenity Park, Lindner emphasizes repeatedly that parrots are not good candidates as pets. Many birds come from low-welfare breeding facilities, and few people who purchase parrots are equipped to provide the proper environment for these long-lived, social, and supremely intelligent animals. Perhaps a better way to express one's appreciation of these amazing birds may be to donate to a bona fide parrot sanctuary—or buy this book, since a portion of the profits support the Serenity Park Sanctuary.

## THE INNER LIFE OF CATS

Thomas McNamee / Hachette Books / 288 pages

Thomas McNamee provides a window into what makes cats tick in *The Inner Life of Cats: The Science and Secrets of Our Mysterious Feline Companions*. Anecdotes centering on his own cats, especially beloved Augusta, are interspersed with cat history, behavioral studies, linguistic analysis of the meow (you read that right), and even discourses on cat-related controversies, such as feral cats and the keeping of wild animals as pets.

But McNamee makes it clear that having a pet cat is getting very close to having a wild animal in your home. He uses science and his own cats' closely and lovingly observed behaviors to help the reader—and himself—understand what's going on in the house cat's mind. It is a mysterious place! The author is under no illusion that the cat mind is entirely knowable, but he does want us to have a greater appreciation of the rich inner life that the animal is experiencing.

While the reader could probably do without the long dive into “A Phonetic Pilot Study of Chirp, Chatter, Tweet and Tweedle in Three Domestic Cats,” it doesn't hurt to be reminded that we should listen more closely to what our cats are saying. It is revealing to read that cat sounds “are made only for the sake of saying particular things to particular people” and that “cat talk is always interactive, and often aimed at achieving a goal.” It is obvious that cats are not dogs, but it is not necessarily obvious that responding to cat behavior as one would respond to a dog can destroy your relationship with your cat.

The reader will race to find out what happens when Augusta encounters a bear, but it is worthwhile spending time reading about the biology of the purr, the socialization of kittens, and the semaphore of the cat's mouth, whiskers, eyes, and ears. This will equip cat companions with useful knowledge to guide them in enriching their pets' environments, whether a ranch in Montana or an apartment in San Francisco. But nothing can fully explain why the food that Mittens ate with gusto yesterday is regarded as poison today. Not all mysteries are meant to be solved.

## LOVE AND BANANAS

2018 / Ashley Bell / 77 minutes

Actress Ashley Bell's first starring role was in a scary movie. For her directorial debut, she turns the camera around to address a real-life horror: the brutal captivity of Asian elephants. But her film, *Love & Bananas: An Elephant Story*, is more a hero's tale than a horror flick. It profiles Sangduen “Lek” Chailert, the founder in 1995 of Elephant Nature Park, an elephant sanctuary in northern Thailand. Lek's passion is saving elephants. She knows more about the dark side of the captive elephant trade than most—her family ran an elephant trekking camp, giving elephant rides to tourists.

Only around 45,000 Asian elephants remain, one-third of whom are believed to be in captivity, used in logging or to entertain tourists: giving rides, doing tricks, even painting. Prior to training, however, young elephants—stolen from the wild or bred in captivity—first undergo *phajaan*, or “crushing,” a process that is every bit as awful as the name suggests: To crush the spirit of elephants as young as 3 years old, they are placed in small cages, bound, starved, and beaten for several days. Lek states that “elephants have never been domesticated, only broken.”

Much of the movie depicts a harrowing 23-hour rescue of an elephant from a trekking camp in southern Thailand. But perhaps the most heroic act depicted in the movie is Lek convincing the owner to convert his camp to a sanctuary. The resulting “Elephant Haven” is now a more popular tourist destination than the trekking camp ever was.

The film is by turns breathtaking and heartbreaking: watching a herd of elephants take a mud bath or learn to play with a new toy, then seeing the absolute terror in the eyes of a captured baby elephant who doesn't understand why she has a chain around her foot.

Asian elephants belong in the wild. Those already in captivity deserve sanctuary—and kindness to overcome the physical and psychological torture they have endured. As Lek explains, “You don't need a bull hook to control an elephant. You can guide an elephant with love... and bananas.”

### 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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## APPLY FOR LABORATORY ANIMAL WELFARE REFINEMENT GRANTS

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 \$10,000 to develop and test innovative methods of refinement 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 February 1, 2019, and grant recipients will be notified in March. Further information and links to the online application are available at [www.awionline.org/refinementawards](http://www.awionline.org/refinementawards).

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

**Dr. Brianna Gaskill, Purdue University:** Investigating the link between laboratory personnel's professional quality of life and the provision of environmental enrichment to animals under their care. Environmental enrichment has proven welfare benefits, yet it is not consistently used. The purpose of this study is to shed light on the relationship between human attitudes and the provision of environmental enrichment to laboratory animals. Understanding this link may help with the development of intervention strategies to improve the welfare of animals in research.

**Dr. Kathleen Coda, University of Illinois at Chicago:** Developing and validating environmental enrichment strategies to improve the welfare of rabbits housed in standard-size laboratory cages. This study seeks to determine which enrichment devices—designed to encourage natural behaviors like exploration, digging, and rearing—the animals prefer. Subsequently, the study will examine physiological and behavioral indicators to determine whether providing the rabbits with preferred enrichment can help mitigate the stress they experience during shipping. 🐾

