



# AWI Quarterly

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## SPOTLIGHT

### AWI Tip Leads Texas Officials to Illegal Shark Fin Sales

The cruel shark fin trade continues to decimate shark populations worldwide, and demand from the United States contributes to that toll. Although 15 states and territories ban the sale of shark fin products, it remains legal to sell them in most of the United States.

Each year, AWI audits its online list of restaurants serving shark fin, including those in states with bans. If we believe a restaurant is flouting a state ban, we notify authorities. During its 2017 audit, AWI found a Texas restaurant that was serving shark fin soup despite a state ban. We notified Texas wildlife enforcement officials, who investigated. Subsequently, the restaurant was charged and pleaded guilty to illegally serving shark fin products.

The county prosecutor in Collin County, Texas, informed AWI that this was the first prosecution she is aware of under the 2016 Texas law establishing the ban. The prosecutor's office worked closely with Texas game wardens, who reviewed DNA samples of the offered shark fin. Officer Michael Stevens, the game warden initially notified by AWI, let the prosecutor know about AWI's shark fin campaign. Ultimately, as part of the plea deal, the restaurant was required to make a donation to AWI for its shark protection work.

While this outcome in Texas is an extremely encouraging sign, a nationwide ban on shark fin products is needed. The bipartisan Shark Fin Sales Elimination Act (HR 1456) would accomplish this. The bill has more than 250 co-sponsors in the House of Representatives. Its companion bill, the Shark Fin Trade Elimination Act (S 793), has more than 36 co-sponsors in the Senate. These bills would prohibit the sale of shark fins in the United States, help reduce the international shark fin trade, and improve enforcement capabilities. Please contact your members of Congress and ask them to support this legislation at [www.awionline.org/sharks](http://www.awionline.org/sharks). 🐾

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### ABOUT THE COVER

Few farm animals in this country live out in the open—instead living in vast barns in close confinement. When such facilities catch on fire, the animals are often trapped. From 2013 to 2017, more than 2.7 million farm animals died in the United States as a result of 326 barn fires. The most common culprit is a faulty heating device. A new AWI report—*Barn Fires: A Deadly Threat to Farm Animals*—takes a close look at the circumstances behind these tragic events and outlines steps all farms can take to prevent them. Turn to page 14 to learn more. Photograph by Jim Schemel.

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## IWC Recap: Efforts to Curtail Whale Conservation Avoided

In September, AWI took part in the 67<sup>th</sup> meeting of the International Whaling Commission (IWC) in Florianópolis, Brazil. The meeting delivered a series of surprises—not least of which was that Japan failed to secure support for any of its priorities.

Since the Japanese Parliament adopted a new whaling law in 2017, it has been Japan’s official policy to continue so-called “special permit” or “scientific” whaling and seek to resume commercial whaling as soon as possible. To this end, Japan submitted a complicated proposal that would have lifted the IWC’s longstanding global moratorium on commercial whaling and set quotas for whales in Japan’s coastal waters, while also initiating a diplomatic conference to revise the voting rules enshrined in the IWC’s 1946 founding treaty.

Under the treaty, binding decisions require a three-quarters majority vote. The rule change would have allowed IWC decisions on whaling quotas to pass via a simple majority—a threshold that Japan and its allies are close to meeting. The proposal itself, however, needed to secure a three-fourths majority since its effect would have been binding. Ultimately, it fell far short, with Japan securing only 27 yes votes to 41 votes against.

Another positive development was the adoption of several AWI-supported conservation resolutions, including “the Florianópolis Declaration”—a statement of IWC intent to maintain the moratorium and support the conservation of whales. We were particularly involved in the adoption of a resolution that recognizes the valuable ecological services that cetaceans provide to the marine ecosystem. The resolution endorses a workshop to identify additional scientific studies needed to fully understand this role—knowledge that would strengthen arguments for maintaining the whaling ban and for establishing marine protected areas. The IWC also agreed to support new prevention and mitigation measures to address the annual bycatch entanglement deaths of hundreds of thousands of whales, dolphins, and porpoises in fishing gear.

A significant focus of the meeting was the renewal of aboriginal subsistence whaling (ASW) quotas for indigenous peoples in the United States, Russia, and Greenland, as well as hunters on the island of Bequia in St. Vincent and the Grenadines. Following extensive negotiations, the IWC ultimately approved



PAULO OLIVEIRA

*At the IWC’s biennial meeting in Brazil, member nations agreed to support measures that address the enormous number of cetaceans who die each year after becoming entangled in fishing gear.*

the renewal of existing quotas for the United States and for St. Vincent and the Grenadines, as well as increased catch limits for Greenland and Russia (on the condition that Russia take steps to improve the welfare of its hunt and contribute to efforts to understand the “stinky whale” phenomenon, in which a small proportion of landed gray whales emit a strong chemical odor, rendering them inedible). The IWC also approved rules for the carry-forward of unused ASW quotas and a new provision to allow quotas to renew automatically every six years. AWI strongly opposed many of the new ASW measures, especially the auto-renewal provision, but helped to ensure that it includes conditions that will make it more difficult for Russia, St Vincent and the Grenadines, and Greenland—whose hunts pose the greatest management, conservation, and welfare concerns—to exploit them.

In the end, what began as a meeting in which cetaceans and their advocates could have lost decades of conservation victories resulted in decisions providing a foundation for future efforts to secure greater protections for whales and their ocean habitat. 🐾

## TALKS BEGIN ON TREATY TO PROTECT HIGH SEAS BIODIVERSITY

Members of the United Nations have begun negotiations on the first treaty to manage and protect biodiversity in international waters. These vast areas of open ocean are far from coastlines and vulnerable to overexploitation and other damage. Although the UN Convention on the Law of the Sea (UNCLOS) was negotiated and agreed to in 1982 and came into force in 1994 (though still unratified by the United States), access to the high seas has been generally unrestricted.

The open oceans are critical to the future health of the planet and desperately in need of protection. For the past several years, UN members have wrestled with the issue of high seas governance and have held numerous preliminary negotiations—with AWI participating in some of these sessions.

Formal negotiations finally began in September. Some of the key issues debated during a two-week meeting included access to genetic marine resources, the need for robust environmental assessments before engaging in potentially harmful activities, and the creation of marine protected areas—all very complex issues. The meeting closed with general optimism that a negotiated treaty will result, although there is clearly a long way to go. The next meeting is planned for spring 2019, with intersessional negotiations taking place in the interim.

## RUSSIA RESUMES BELUGA, ORCA CAPTURES

After a two-year break, Russia has once again issued permits to capture free-ranging orcas and belugas in the Sea of Okhotsk for display in entertainment parks. This summer, rather than taking a more typical

20–30 belugas and five or so orcas, the capture boats brought in an unprecedented 80–90 belugas and 11–13 orcas, crowding them into sea pens near Vladivostok. AWI is working with Russian activists, other international animal groups, and concerned scientists to address this shocking turn of events. The animals are destined for facilities in Russia (belugas) and China (orcas and belugas). We will provide updates as we learn more.

## ORCA TASK FORCE IGNORES ACTUAL SOLUTIONS

With a current population of only 74 whales—a 30-year population low—southern resident orcas (a.k.a. killer whales) are in crisis. Their primary prey, Chinook salmon, are endangered, and the whales are starving. In March, Washington Governor Jay Inslee ordered formation of the Southern Resident Killer Whale Recovery and Task Force and charged it with recommending “swift near-term actions and effective long-term actions necessary to recover these iconic and endangered animals.”

AWI believes strategic dam removals along the Lower Snake River would yield the greatest benefit to orcas and salmon. There is more public support for this idea than for any other proposed action that was considered. Yet, in its final report to Governor Inslee in November, the task force did not include this action.

In fact, the task force recommended the lethal removal of pinnipeds—who, they claim, eat too many salmon—within the Columbia River Basin. This option is *not* supported by the public, and this type of predator control rarely works wherever it is attempted.

Bold actions are needed to save the southern residents. However, the task force largely ignored science and the public will, a stance that benefits no one, least of all the whales and salmon.

*Southern resident orcas swimming near Saturna Island, BC. A Washington state task force created to weigh recovery strategies for these orcas ignored the most promising solution: strategic dam removals.*



MILES RITTER

# Scapegoating Sea Lions Won't Save Salmon

## The Marine Mammal Protection Act

(MMPA) was passed in 1972. Over the years it was amended, but its fundamentally protective nature has remained unchanged. The statute outlawed the killing of any marine mammal, with limited exemptions. Activities such as sport and commercial hunting and culls of “nuisance” animals, which were allowed in some states before this, ended that year, although fishing vessels retained the right to protect their gear and catch—that is, to shoot at animals such as sea lions as a deterrent while fishing.

In 1994, the MMPA was amended to outlaw “shooting from the stern” and to create a new fisheries management regime. However, amendments also allowed the intentional killing of individually identified seals and sea lions preying on endangered salmon species. This provision arose because a network of (mostly hydroelectric) dams on the Columbia River and its tributaries slow salmon down on their spawning migrations upriver. Very smart sea lions take advantage of these artificial “choke points” and feast on the fish as they mill around before mounting the narrow fish ladders at the dams.

These dams, as well as culverts and other human construction and activities, have also damaged salmon spawning habitat, further contributing to the decline in West Coast salmon. This decline has been a significant concern for local tribes and recreational and industrial fisheries. It has also raised concerns for another endangered species, the southern resident orcas, who are themselves natural predators of endangered salmon stocks.

In 1994, there was little or no public support for killing seals and sea lions. “Predator control” rarely works anywhere it is applied, especially when prey species are affected by multiple threats. Indeed, in many cases predators eat species that are themselves predators of the species in need of protection; for example, sea lions eat fish species (often introduced, non-native sport fish) that prey on young salmon. Thus, killing predators may not have the desired effect at all.

When states first applied to kill sea lions under this new provision of the MMPA, regulators set the upper limit for lethal removals at no more than 1 percent of the maximum number of animals who can be killed by human activity while remaining at an optimum population level (this is known as the potential biological removal level, or “PBR”). Only Washington, Oregon, and Idaho officials applied for kill permits. They set up platforms with cage traps near Bonneville Dam on the Columbia, onto which sea lions voluntarily climbed to rest. Animals were hot-branded, and if they were ever seen eating salmon, they were put on a list so that the next time they showed up on the traps, they could be caught and chemically euthanized.

Because these states consider the application process for lethal removal onerous, members of the Pacific Northwest congressional delegation periodically introduce legislation to allow easier approval. The proponents of these bills claim that sea lions are invasive in the Columbia River Basin, appearing far upriver to eat endangered salmon





where “they’ve never been seen before.” In fact, according to historical records, seals and sea lions were once regularly seen feeding far upriver. Then commercial hunting and culls reduced them to a fraction of their original population and range. What bill proponents see as “overpopulation” has actually been a reoccupation of territory that no one living remembers as sea lion habitat.

These bills have always originated in the House of Representatives; on three occasions, they have passed out of committee. However, there was never any real fear of them becoming law, as they have historically lacked a Senate counterpart.

## Until now.

In June 2018, a bipartisan bill (HR 2083) received a hearing in the House Committee on Natural Resources—with no expert witness opposed to the legislation invited to testify—and passed a House floor vote with minimal publicity. This bill was euphemistically named the Endangered Salmon and Fisheries Predation Prevention Act. In truth, it is the Sea Lion Culling Act. For the first time, a bipartisan companion bill (S 3119) was introduced in the Senate. Within five weeks, the bill had passed the Senate Commerce, Science, and Transportation Committee with no hearing at all. S 3119 could receive a vote by the Senate at any time.

The bills would allow for the killing of up to 10 percent of PBR, which means almost 1,000 sea lions could be killed every year. The bills also expand who can apply for permits—not only state officials but also local tribes and their contractors, meaning they can hire anyone to do the killing. S 3119 states that the primary killing method must be

humane, but only 100–250 sea lions haul out on the trap platforms (making themselves available for chemical euthanasia) every season. Thus, it is likely permit holders will end up shooting animals, a cheap killing method that is not always humane and is open to abuse.

Meanwhile, since killing sea lions will not help the salmon, it will not help the endangered southern resident orcas, either. For 17 days last month, one of these whales, J35 (a.k.a. Tahlequah), carried around her dead newborn, who only survived for about 30 minutes after her birth. Many called this sad spectacle a “tour of grief” or a “protest.” Certainly it brought national attention to the dilemma facing the Pacific Northwest, with three iconic species—orcas, salmon, and sea lions—trying to find balance in a habitat profoundly altered by humans unwilling to breach dams, remove culverts, or otherwise make hard political and economic decisions to restore a natural ecosystem.

Tahlequah’s calf may not have died solely due to her mother’s nutritional stress, but it was probably a factor. The calf was the first to survive, even if only for moments, since 2015. Clearly the southern residents are in crisis. And yet legislators, rather than take real action, propose instead to kill sea lions for the crime of... eating. Human reliance on salmon is cultural, economic, industrial, and social—orcas and sea lions rely on them for survival.

HR 2083 and S 3119 are bad bills. They should not become law. If they do, salmon will still not recover and sea lions will die for nothing. Worse still, these killing bills would rip out the heart of the MMPA, undermining its protective foundation. 🐾



## Japan's Sei Whale Trade Declared Illegal Under CITES

In an unprecedented reprimand, the Standing Committee to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has determined that Japan's use of thousands of tons of meat from endangered sei whales—the third largest species on the planet—is illegal under the treaty. Most of the evidence and the underlying legal analysis were provided by AWI and our partner organizations.

The decision, made at the 70<sup>th</sup> meeting of the CITES Standing Committee, held in Sochi, Russia, in early October, was a resounding rebuke to Japan. Eighteen countries declared the use of the meat to be primarily commercial and a violation of CITES. Only the Russian Federation supported Japan.

The sei whale is listed on Appendix I of CITES, which means that international trade in its parts or products for primarily commercial purposes is prohibited. Japan kills up to 134 sei whales a year for so-called scientific research conducted on the high seas. Under CITES rules, landing these whales in Japan is termed "introduction from the sea," which qualifies as international trade. After collecting a few biological specimens from each whale, Japan processes and packages thousands of tons of sei whale meat and blubber for commercial sale.

Japan must now present a plan by February 1, 2019, showing how it intends to restore compliance. The committee has warned Japan that if it fails to provide a satisfactory response, punitive measures will be considered. These can include an embargo on trade with Japan in other CITES-listed species by the other 182 CITES parties.

Several other issues of keen interest to AWI were discussed at the Standing Committee meeting—convened in preparation of the upcoming 18<sup>th</sup> meeting of the Conference of the Parties (CoP18), to be held in Colombo, Sri Lanka, next year. One such issue is illegal trade in the endangered totoaba fish (whose swim bladder is used in traditional medicines). This trade is a primary driver in pushing the vaquita porpoise toward imminent extinction—when totoaba are caught with gillnets in the Gulf of California, vaquita are killed as bycatch. AWI and allies were able to ensure that this issue would continue to be subject to CITES review at CoP18, and that Mexico, the United States, and China (as origin, transit, and destination countries for totoaba bladders) would have to submit information to the CITES secretariat about their efforts to combat this trade.

A recommendation to allow a working group on the "disposal" of confiscated CITES specimens to continue its work after CoP18 was undermined, unfortunately, by a handful of countries (including the United States) at the urging of zoological associations, but the effort to secure more humane treatment for seized live animals will continue at the meeting.

Among other important issues discussed: trade in rhino horns, ivory, Asian elephant skins, and live Asian and African elephants; trophy-hunting quotas for Appendix I species; and the role of rural communities in the CITES process. These and a number of other important wildlife trade issues, as well as a suite of new species listing proposals, will provide plenty of chances to advance wildlife conservation, secure new protection for species from unsustainable trade, and strengthen CITES at the CoP. 🐾

# NONINVASIVE MONITORING OF MANATEES

By Dr. Elizabeth Burgess and Dr. Rosalind Rolland, Anderson Cabot Center for Ocean Life, New England Aquarium

In 2010, 280 Florida manatees died during prolonged cold weather due to chronic metabolic stress, known as “cold-stress syndrome.” Since 2012, more than 150 manatees have died in the polluted Indian River Lagoon during a long-running “unusual mortality event,” the cause of which remains under investigation but appears to be related to a dietary shift following the drastic loss of seagrass in the region. Understanding the cause of these mortalities would provide key information about how insidious environmental changes are impacting manatees and their ecosystems.

Blood sampling is the traditional approach for determining the internal health of wildlife. However, the collection of blood samples typically requires capture and handling of animals out of the water, which can affect any hormonal stress signals being investigated. The elimination of hormones from the body in feces, however, provides a noninvasive means to collect valuable information on wildlife health.

With the support of a Christine Stevens Wildlife Award, the Anderson Cabot Center for Ocean Life at the New England Aquarium developed a methodology using fecal samples to assess the physiological condition of Florida manatees in the wild. Samples were collected by the Florida Fish and Wildlife Conservation Commission and the US Geological Survey during health assessments of free-ranging manatees and necropsies of carcasses. We focused on measuring levels of triiodothyronine ( $T_3$ ), a thyroid hormone, because it has profound influences on metabolism and is particularly responsive to nutritional deficits and extreme temperature insults. To date, we have analyzed 127 fecal samples from manatees across Florida, including

apparently healthy individuals, animals who suffered cold-stress syndrome, and those who died during unusual mortality events. These data were used to establish a hormone reference database to assess the health of manatees in the future.

We found that manatees had elevated levels of  $T_3$  during spring-summer when wild populations experience heightened metabolic demands due to increased breeding activity and better food availability. Adult males, who jockey for position within “breeding herds” of a dozen or more males pursuing a single female, showed the greatest metabolic activity during this time of year. Thyroid levels were lower in winter, as manatees try to conserve their energy when ambient temperature is lower and food becomes scarcer. Manatees with access to naturally warmed artesian springs during winter had reduced metabolic activity compared to manatees overwintering in more disturbed habitats of industrial or secondary warm-water sites, such as power plant outflows. Manatees with symptoms of cold-induced stress and manatees who died during an unusual mortality event showed significantly elevated thyroid activity in winter compared to apparently healthy manatees. These findings demonstrate that manatee overwinter survival depends on good quality habitat—reliably warm waters close to robust foraging grounds—facilitating energy conservation at times when thermoregulatory challenges are greatest and food is least available.

This research demonstrates that using feces as a noninvasive technique to collect physiological data shows promise as an effective and humane way to monitor and assess wild manatee health and to aid in mortality investigations. The next innovation of this methodology will be its application to evaluate manatee health *before* deleterious consequences are observed (i.e., mortalities, low calving rates)—enhancing the opportunity for improved monitoring and earlier intervention to safeguard manatees in the wild. 🐾



*AWI and co-plaintiffs scored a key victory on behalf of red wolves when a federal court ruled that the USFWS is failing its legal duty to carry out conservation measures on behalf of these endangered animals.*

## COURT CASTIGATES USFWS FOR ROLLING BACK RED WOLF PROTECTION

On November 5, AWI and co-plaintiffs won a significant victory in our ongoing litigation to protect red wolves, when a federal court agreed that the US Fish and Wildlife Service violated the Endangered Species Act, the National Environmental Policy Act, and USFWS regulations in its rollback of protections for the world's only wild population of red wolves, who live in eastern North Carolina. The court also made permanent its 2016 order that barred the USFWS from taking red wolves, either directly or by landowner authorization, without first demonstrating that such wolves are a threat to human safety or the safety of livestock or pets.

In his ruling, Judge Terrence Boyle of the US District Court for the Eastern District of North Carolina stated that “the recent USFWS decisions to discontinue successful population management tools while increasing the likelihood that landowner lethal takes will be approved for wolves which historically would not have been subject to take, amount to a failure comply with its affirmative duty to ‘carry out conservation measures until conservation [is] no longer necessary.’”

The USFWS argued—unsuccessfully—that the court could not properly rule on our claims because of a new rule that the agency is finalizing. This new rule, if adopted, would further undermine recovery—reducing the



SONYA LANG

existing red wolf recovery area by 90 percent, to federal land within a single county that could support fewer than 15 wolves. The new rule would also eliminate protections for any wolves who leave the recovery area, such that any venturing onto private and state lands could be shot without consequence. This directly conflicts with the court's ruling. This rule is expected to be finalized by the end of this year. If that happens, AWI and its co-plaintiffs will be back before the court to challenge the rule and continue to fight for the survival of red wolves.

## NATIONAL ACADEMIES TO TACKLE WOLF TAXONOMY

In an appropriations bill passed in March, Congress directed the USFWS to obtain an independent assessment on the taxonomic status of the red wolf and the Mexican gray wolf—both of which are listed as endangered under the Endangered Species Act. At the request of the USFWS, therefore, the National Academies of Sciences, Engineering, and Medicine (NASEM)

appointed an ad hoc committee to conduct an independent analysis of scientific literature to answer two questions: (1) Is the red wolf a taxonomically valid species? (2) Is the Mexican gray wolf a taxonomically valid subspecies? The committee will summarize the relevant science, including research on the wolves' evolutionary history and genetic diversity. NASEM has indicated the study will be completed by March 2019.

The hope of some in Congress and the administration is that the study can be used to cast the taxonomic distinctions of these animals in doubt, so as to make it easier to evade endangered species protections for them. On September 13, the NASEM committee held a public meeting to receive input on the proposed study. AWI attended the meeting and testified that the scientific evidence strongly supports a conclusion that the red wolf is indeed a taxonomically valid species. We also noted the absence on the committee of key scientists who have the greatest expertise concerning red wolves.

## AWI AND BOOK PUBLISHER ENLIST KIDS TO SAVE SPECIES

Last May, AWI was honored to partner with HarperCollins Children's Books on educational materials coinciding with the launch of a new series aimed at 3<sup>rd</sup> to 6<sup>th</sup> graders from Newbery Medal-winning author Katherine Applegate. *Endling #1: The Last* tells the story of Byx, a mythical creature whose doglike species, the "dairne," has been hunted to near extinction. (See *AWI Quarterly*, summer 2018.)

With the release of the second book next May (*Endling #2: The First*), AWI is thrilled to be collaborating with HarperCollins again to bring home the important message of the series. The upcoming "Save All Species" campaign will encourage kids to pledge to take action to help protect endangered species and support the Endangered Species Act. They will also be asked to draw a picture of the endangered animal they love the most.

Participating classrooms will be entered into a nationwide sweepstakes to win a visit from Applegate in May 2019 (via Skype), a set of Applegate's books for

the classroom, and a donation made in the class's honor to AWI. To learn more about how to enter, send an email to [regina@awionline.org](mailto:regina@awionline.org). Details will be released to the public in January 2019.

## AWI SPEAKS UP FOR NY HORN AND IVORY RESTRICTIONS

In August, AWI filed an *amicus curiae* (friend of the court) brief in support of a New York law restricting trade in ivory and rhinoceros horn. The 2014 law prohibits the sale, purchase, trade, or distribution of ivory and horn within New York, with certain exceptions. The Art and Antique Dealers League of America is challenging this law as unconstitutional.

AWI's brief informed the court of the four primary reasons that the New York Assembly passed the law: (1) a catastrophic, unprecedented poaching crisis, (2) the transformation of ivory trafficking from a small-scale activity to a massive, weaponized war on wildlife dominated by sophisticated organized crime syndicates, militant groups, and terrorist organizations

that sell ivory to fund criminal and terror campaigns, (3) the fact that "antique" ivory trade is often used to disguise new ivory from recently killed elephants, and (4) recognition of New York's prominent role in the US ivory trade, a situation that was enabled by weak state laws. Furthermore, the law works: After it passed in 2014, New York experienced a drastic reduction in the number of ivory items for sale, falling from the single largest market in the United States for ivory to the third largest market.

## CHINA ALLOWS— THEN DISAVOWS— MEDICINAL USE OF TIGER, RHINO PARTS

On October 29, the State Council of China issued a policy directive indicating that the use of horn and bones from farmed rhinos and tigers for "medical research or in healing" would be allowed—reversing a 25-year ban on the practice. Animal protection groups immediately and forcefully decried the decision, stating that reviving a legal avenue for such products would provide black market dealers a golden opportunity to launder wild rhino and tiger parts.

Two weeks later, the Chinese government reversed course. In remarks published by the state-run media on November 12, State Council Executive Deputy Secretary-General Ding Xuedong stated that the previous order was put on hold and medicinal use of rhino and tiger horn would—at least for now—continue to be banned.



MAY SANG

*The Chinese government—after first indicating it would allow medicinal use of farmed tiger and rhino parts—reversed course and said such uses would continue to be banned.*



# Beaver Institute Solves Conflicts to Save Beavers

By Michael Callahan, president of the Beaver Institute

The North American beaver, an often misunderstood and maligned aquatic rodent, builds dams with mud and sticks, which turns streams into valuable wetland ecosystems. Beaver ponds are necessary throughout most of the United States and Canada for healthy watersheds—acting as the Earth’s kidneys. They also support innumerable plant and animal species, including many that are threatened and endangered. As a result, biologists classify the beaver as a “keystone” species, meaning it is responsible for supporting thousands of other species.

Occasionally though, these ecologically valuable beaver ponds flood human properties and cause serious damage. Traditionally, when this has occurred, beavers have been killed and their dams destroyed. Fortunately, innovative nonlethal methods to resolve human–beaver conflicts have been developed and implemented over the past two decades. In my experience at over 2,000 beaver conflict sites, the majority of beaver–related flooding problems can be resolved

nonlethally. Unfortunately, few other people in North America know how to do this work. To address this problem, the Beaver Institute was created in 2017.

The Beaver Institute’s mission is to be a catalyst for advancing beaver management and watershed restoration by providing technical and financial assistance to public and private landowners experiencing beaver conflicts. The organization supports scientific research, trains mitigation professionals, and works to increase public appreciation of the beaver’s critical role in creating wetland ecosystems. Our vision is that one day all beaver–human conflicts will be resolved in a science-based manner in order to maximize the many benefits that beavers contribute to the environment.

AWI financial assistance was invaluable in helping the Beaver Institute get started by allowing us to create a comprehensive, educational website. Over the past year, website traffic has steadily increased to over 1,200 visitors per month, and this number continues to rise.

With AWI’s help, as well as generous support from volunteers and other donors, the Beaver Institute has also developed and recently launched the first DIY and Professional Beaver Management Training Courses in the world. Our five-year goal is to train 100 professionals across North America to implement proven techniques to nonlethally resolve beaver conflicts with humans. Over 30 people from 13 US states and three Canadian provinces have already expressed interest in our professional training course, and many more have received DIY information. In October, our first two professional trainees, from Maine and New York, started their hands-on training to become professional beaver specialists.

All course graduates will become members of our professional Beaver Corps. The Beaver Institute will support their ongoing education and refer landowners with beaver issues to these professionals. Their work to humanely resolve human–beaver conflicts will provide immense benefits to our environment and will promote a culture of coexistence.

The Beaver Institute continually seeks new individual, regional, and national partners to advance our mission and vision to benefit beavers, biodiversity, society, and the health of our planet. For more information, visit [www.beaverinstitute.org](http://www.beaverinstitute.org). 🐾

## NEW YEAR USHERS IN NEW CONGRESS

Time and again over the past two years, leadership in the House of Representatives advanced legislation aimed at dismantling long-standing animal protection laws. A new Congress ascends Capitol Hill in January, and AWI hopes that new leadership in the House proves far less antagonistic toward animal welfare.

Rep. Pete Sessions (R-TX), who, as chairman of the House Committee on Rules, continually used his position of power to deny positive animal welfare legislation from advancing to the House floor for a vote, lost his seat in Congress. At the same time, some House members who joined us in efforts to improve animal welfare also lost their reelection bids. These include Rep. Peter Roskam (R-IL), who secured a provision in the House farm bill prohibiting animal fighting in US territories, and Rep. Jeff Denham (R-CA) who was a member of the Congressional Animal Protection Caucus (CAPC). He introduced the Big Cat Public Safety Act and led Republican opposition to the terrible King amendment in the farm bill.

Two other friends of animals chose to retire: Rep. Ileana Ros-Lehtinen (R-FL), also a CAPC member, who sponsored the Pet and Women Safety (PAWS) Act for the past three Congresses, and Rep. Ed Royce (R-CA), another CAPC member, who has been a leader in fighting wildlife trafficking. He sponsored the Shark Fin Sales Elimination Act for the last two Congresses and authored the Eliminate, Neutralize, and Disrupt (END) Wildlife Trafficking Act, which former President Obama signed into law.

Come January, AWI will meet with all new members of Congress and their offices to introduce them to our priorities and enlist new advocates in the effort to strengthen animal protection.



ARTHUR T. LABAR

## MASSACHUSETTS ADDS TO ANIMAL CRUELTY STATUTE

When Massachusetts strengthened its animal cruelty statute in 2014, it also set up a task force to make additional recommendations. A new law resulted—signed in August—that raises certain penalties and makes three other significant changes: (1) It makes animal sexual abuse a new offense. (2) It adds committing an animal cruelty crime, including animal fighting, to the causes for a finding of “dangerousness”—thereby allowing for an order of pretrial detention or “release on conditions.” (3) It specifically permits personnel of agencies serving children and families, the elderly, and disabled persons to report suspected animal abuse, while conversely designating animal control officers as mandatory reporters of child abuse, elder abuse, and abuse of disabled persons. With respect to item 3, AWI has long encouraged social service and humane law enforcement agencies to “cross-report” to better protect both human and animal victims of abuse.

## NEW JERSEY POISED TO BAN WILD ANIMAL CIRCUS ACTS

The New Jersey legislature passed Nosey’s Law (S1093) to ban the use of wild and exotic animals for entertainment in traveling animal acts. If, as expected, the bill is signed by Gov. Phil Murphy, New Jersey will become the first state to enact a comprehensive ban on the use of exotic animals in performances. Named after an elephant kept captive and isolated in traveling shows for more than 30 years, Nosey’s Law would protect not only elephants, but also camels, big cats, primates, seals, and many other wild and exotic animals. Other states have passed less comprehensive measures to cut down on the cruel treatment of circus animals: New York and Illinois banned the use of elephants in traveling shows, while Rhode Island and California prohibited the use of bullhooks to control performing elephants. More than 135 municipalities have also passed legislation to ban animal acts or address abuse of animals in circuses, while others are considering similar measures.

# AWI REPORT REVEALS TRAGIC TOLL OF BARN FIRES



**I**n 2017, a barn fire struck Hi-Grade Egg Producers in North Manchester, Indiana. At least four poultry barns burned down, killing more than 1 million chickens in a matter of hours. The chickens, trapped in confinement sheds, had no way to escape the smoke and flames. In a media interview, Hi-Grade's president said that he expected the company's operations to be back at full capacity within five months, but there was no mention of

the suffering the chickens endured or of plans to increase fire protection in Hi-Grade's barns.

Sadly, this was not an isolated incident. Barn fires kill hundreds of thousands of farm animals every year, and these tragedies are almost always met with an apathetic shrug by an agriculture industry insulated by insurance. Nor do these animals find any concern for their suffering in US

law: Currently, there are no federal statutes or regulations designed to protect farm animals from barn fires in the United States. Farm animals raised for food or fiber (e.g., wool, leather) are not covered under the Animal Welfare Act and receive less protection than other species of confined animals, such as those living in laboratories or zoos. Because industrial farms house such a massive number of animals, emergency planning and fire protection are critical if such horrific loss of life is to be prevented.

This past October, AWI released a first-of-its-kind report: *Barn Fires: A Deadly Threat to Farm Animals*. AWI collected five years' worth of data from media reports on barn fires and analyzed it to determine the scale of farm animal deaths from barn fires, why they occur, and most importantly, what can be done to prevent them. We talked to fire protection experts, and we crafted recommendations that farmers, the agriculture industry, governments, insurance companies, and third-party certification programs can implement to reduce the risk of barn fires.

From 2013 to 2017, at least 2,763,924 farm animals died in the United States as a result of 326 barn fires. But this is just the total reported via media outlets. The actual number of deaths is likely much higher. While barn fires are monitored at the local, state, and federal levels, farming operations are not required to report farm animal fatalities from barn fires, meaning that many farm animal deaths are simply unaccounted for.

The National Fire Protection Association (NFPA) is a nonprofit organization that creates standards for fire protection that state or local governments may choose to adopt. The standards are not binding unless adopted, but serve as a guide for the safest and most advanced fire protection practices. One of the standards, NFPA 150, was created to address fire and life safety in animal housing facilities. It covers animals used in agriculture, although not all types of farm animals are included; it applies only to farm animals housed indoors for commercial purposes and excludes animals living on feedlots and pastures and those raised in residential-type settings.

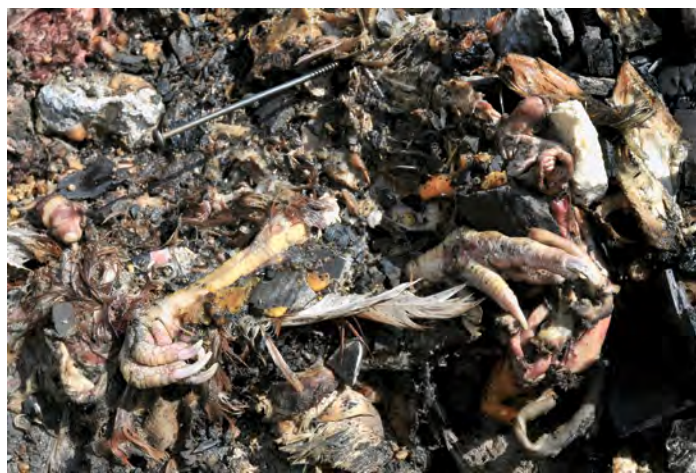
Though AWI believes these latter animals should not be excluded, implementing NFPA 150 could still spare thousands of animals from suffering. For example, NFPA 150 requires detection systems in certain areas of industrial barns, something most such barns currently do not have. Additionally, it requires emergency management training for employees and inclusion of a hazard assessment in emergency management plans. Since 2014, AWI has helped influence NFPA 150 by sending in comments and suggestions.

For the last year, we've also been a member of the committee responsible for drafting NFPA 150, serving as the only animal protection voice.

Considering the scattered entities that have a hand in regulating, monitoring, and reporting barn fires, and the challenges associated with doing so, it is no surprise that farm animal fatalities have flown under the radar and have not been prioritized. However, the data suggests that with a few safety measures, barns could be made much safer for farm animals.

While compiling *Barn Fires: A Deadly Threat to Farm Animals*, AWI also found a striking imbalance regarding the species killed by barn fires. Seventeen species of farm animals were reported to have died in barn fires from 2013 to 2017. Chickens, however, represented 95 percent of the deaths. Pigs accounted for 2.5 percent and cows accounted for less than 1 percent. This discrepancy is understandable, given that far more chickens are raised than any other farm animal—with thousands upon thousands commonly crowded into massive sheds. Larger animals on factory farms may have little or no space to move around, but fewer can be packed into any one facility and fewer, therefore, will die in a fire. During the period surveyed, there were several instances in which 100,000 to 500,000 chickens were killed in a single fire, whereas the largest number of cows killed in one fire was 500 and the largest number of pigs was 11,000.

Barn fires that killed farm animals were reported in 38 states from 2013 to 2017. While it might be expected that the states with the most animal agriculture would have the highest number of fires, that is not generally the case. North Carolina, for instance, which has the second largest pork industry, fourth



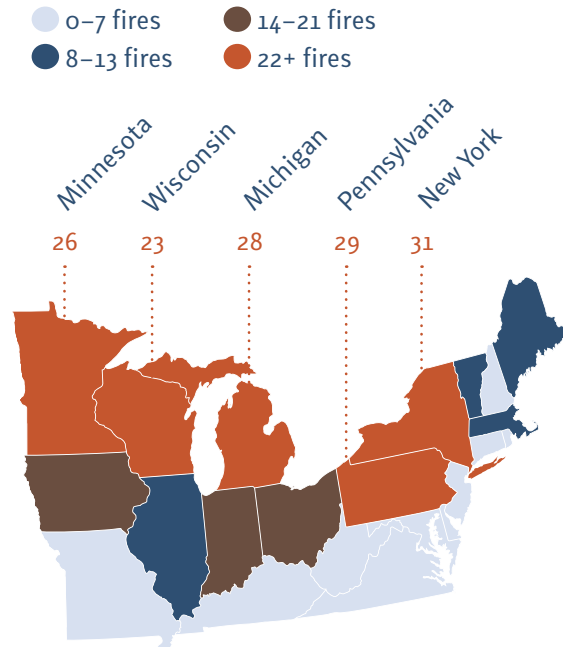
*The grisly aftermath of a fire in a chicken confinement shed. Large fires may kill massive numbers of birds. Last year, 1 million chickens died in a single fire in Indiana.*

JACK TUMMERS

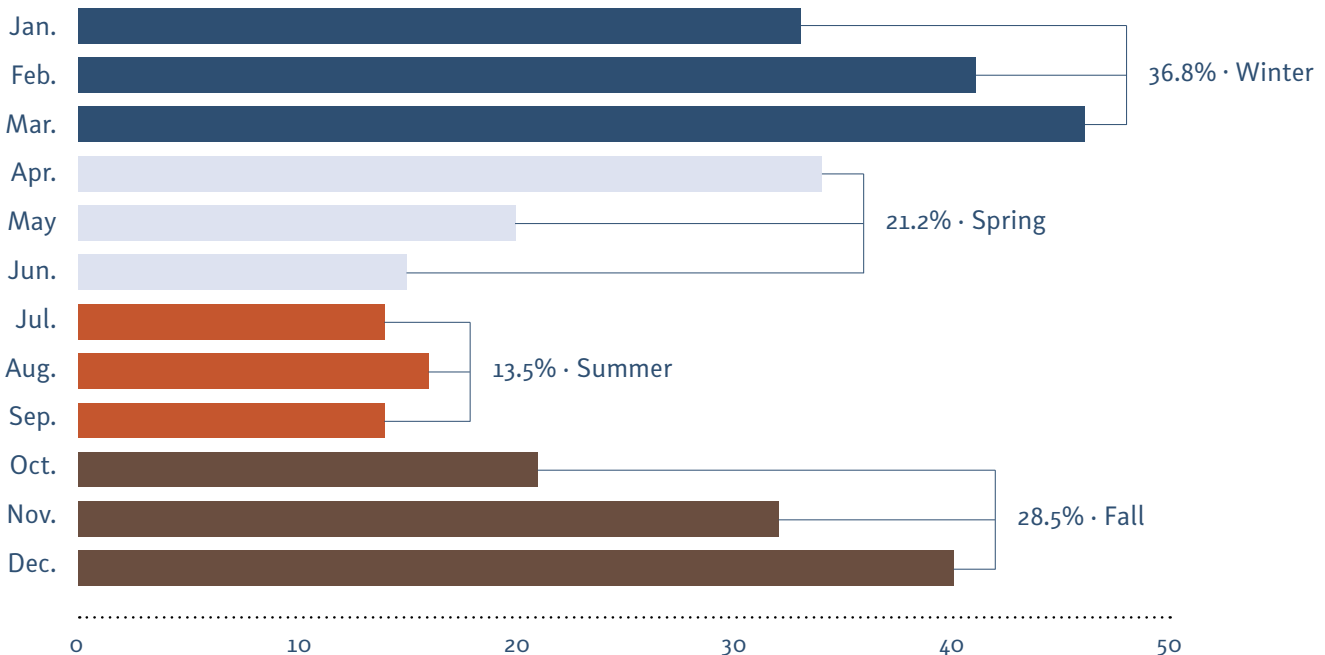
largest broiler chicken industry, and second largest turkey industry, averaged only 1.4 fatal fires a year. Alabama, Arkansas, and Mississippi, which together account for almost a third of the total US broiler chicken production, did not have a single reported barn fire that caused animal fatalities over the five-year span. Instead, a more prominent factor appears to be that colder states experience more barn fires, regardless of whether they are top producers. For example, Michigan, which is not one of the top-five producing states for any animal agriculture industry, had the third-highest number of barn fires over that same period, averaging 5.6 a year. Similar statistics are observed for other midwestern and northeastern states, while warmer southern states with significant animal agriculture industries consistently have few or no fatal barn fires.

Out of the 326 total barn fires that caused farm animal fatalities, the cause or likely cause was reported in 106 cases. (In many instances, the destruction was too severe to determine the cause.) In others, the cause was still undetermined or under investigation at the time of press, and an update was never provided. In cases where the cause was known, electrical heating devices and other electrical malfunctions caused the vast majority of the fires. Heating devices were found to have caused or were deemed likely to have caused 48 percent of fatal barn fires.

## NUMBER OF BARN FIRES PER STATE 2013-2017



## NUMBER OF BARN FIRES PER MONTH 2013-2017





*As cows graze on pasture, a fire-destroyed chicken barn smolders in the background.*

More fires occurred during colder months than during warmer months—an expected result given that so many fires result from malfunctioning heating devices. Roughly two-thirds of fatal barn fires occurred during the six-month period from October to March, and almost three times as many barn fires occurred in winter (January through March) than in summer (July through September).

No matter the cause, time of year, or location of the farm, all farmers can take simple steps to prevent barn fires and promote fire safety. To minimize the risk, AWI recommends the following:

**Sprinkler systems:** Though sometimes cost prohibitive, this is the most effective suppression system for putting out fires.

**Annual inspection by fire department:** A simple step that every farm owner can take is to have the local fire department do an annual inspection. Inspections are done to ensure that electrical systems are working properly, that the barns are free of fire hazards, and that the best emergency plan is in place in case of a fire.

**Fire extinguishers:** Fire extinguishers should be placed strategically throughout the barn, and staff should be trained on how to use them.

**Smoke detection systems:** Smoke detection systems are effective in sensing fires early on and can help minimize the damage and loss of life, especially when the system automatically notifies farm owners and emergency responders.

**Heat detection systems:** Like smoke detection systems, heat detection systems are effective when the system quickly alerts farm owners and authorities to a fire.

**Carbon monoxide detection systems:** All barns should be equipped with carbon monoxide detection systems, but they are particularly important in settings where farm equipment and vehicles are stored in the same or adjacent barns. The fumes from this kind of machinery can build up and become toxic, killing farm animals and humans.

**Employee training and routine fire drills:** In certain situations, employees might be able to safely extinguish a fire or alert the fire department before it overwhelms the barn. Employees should receive in-depth training in how to quickly and safely respond when a fire breaks out.

In addition to these general recommendations, AWI recommends that local governments, agriculture industry trade associations, and third-party certification programs for animal products adopt NFPA 150 or a comparable fire protection standard for barns. All these entities, to some extent, have a hand in regulating the welfare of a large number of farm animals, and adopting NFPA 150 would help to avoid catastrophic barn fires in the future.

No farm is immune from the devastation that a barn fire can bring; these incidents range in size from the death of one animal at a small, family-owned farm to large-scale fires in industrial facilities that kill hundreds of thousands of animals. While barn fire prevention has clearly not been an industry priority, taking steps to encourage fire safety in barns, as well as proper inspection, maintenance, and detection systems in barns, could curb the rate of barn fires and reduce the amount of animal suffering due to these fires immensely. 🐾

## IN NATURAL DISASTERS, FARM ANIMALS FORSAKEN

Every year, millions of farm animals die as a result of natural disasters. Floods, extreme heat or cold, wildfires, and other weather events present grave risks to animals, especially those in confinement. This year alone, nearly 5.5 million farm animals perished from hurricanes Florence and Michael. Chickens and turkeys were at the highest risk—sheds built to house and “grow” these animals are often in far-off, low-lying areas that are vulnerable to flooding. Pigs are also frequently at risk for the same reason.

Unfortunately, because of the sudden nature of these events, and the lack of incentive for disaster planning, many producers do not take action to protect their animals. In fact, some federal programs such as the Farm Service Agency’s Livestock Indemnity Program may actually create incentives for farmers to neglect animals under their care. Under this program, producers may receive indemnity payments for livestock deaths regardless of whether any precautionary measures were taken to protect animals from death.

Another major cause for concern is damage to animal waste infrastructure. After Hurricane Florence, several hog waste lagoons in North Carolina were found to have damage and were at risk due to flooding and heavy rainfall. These lagoons store massive amounts of feces produced by the thousands of animals confined on industrial farms. Overflow or breach of these lagoons presents danger of groundwater contamination and exposure of locals to *Salmonella*, insecticides, and pharmaceuticals present in the wastewater.

## NOT SO FAST: KEY CONDITION ADDED TO LINE SPEED WAIVERS

The US Department of Agriculture recently finalized a new waiver system whereby bird slaughter plants can apply to increase their line speed to 175 birds per minute. Before finalizing the waiver system, the USDA took public comments on its proposed criteria for applicants. AWI vehemently opposed the proposal because it included no mechanisms for ensuring that increased speeds would not cause inhumane handling.

AWI asked the USDA to require, as a condition to any waiver, that processors comply with good commercial practices (GCP)—a voluntary system that addresses humane handling of birds at slaughter. In September, the USDA published a notice in the *Federal Register* indicating that it has essentially adopted our recommendation: To receive a waiver, a plant must have had no violations of GCP in the preceding 120 days. AWI believes this condition provides a strong incentive for plants to adhere to better practices and avoid incidents that result in greater suffering for birds.

## MISSOURI MUZZLES MEAT’S COMPETITION

A Missouri law defining meat as “derived from harvested production livestock or poultry” went into effect this fall. The law also creates fines and even jail time for producers who violate the act. Supporters of the law claim that consumers are being misled by meatless “meat-products,” and the law is necessary to protect the meat industry. Opponents to the law disagree that consumers are misled, since meat alternative products are usually accompanied by statements like “vegan” and “veggie.” Opponents are also concerned that the law restricts free speech and stifles competition in the plant-based meat substitute market. Several organizations have launched legal challenges to the act.



*In the aftermath of Hurricane Florence, cows seek refuge at a North Carolina farmhouse. When Florence and Michael hit, many farm animals were simply abandoned. Nearly 5.5 million perished.*



JO-ANNE MCARTHUR/WE ANIMALS

*AWI's lawsuit seeks to force the USDA to publicly post records relating to enforcement of the Humane Methods of Slaughter Act and the Poultry Products Inspection Act.*

## AWI Sues USDA to Force Online Disclosure of Records

On August 23, AWI and Farm Sanctuary sued the US Department of Agriculture for failing to adequately respond to a Freedom of Information Act (FOIA) request asking for proactive disclosure of slaughter records. The lawsuit is based on a 2016 amendment to FOIA that requires federal agencies to proactively post records that are subject to frequent requests.


The suit, filed in the US District Court for the Western District of New York, asks the USDA to post records online relating to the enforcement of two laws dating to the 1950s—the Humane Methods of Slaughter Act and the Poultry Products Inspection Act. These records give AWI and other advocates a rare look at what is happening inside slaughterhouses across the country. Some records expose inhumane treatment of animals at slaughter plants, including incidents of workers throwing, stomping on, kicking, and punching chickens; workers improperly stunning pigs and cattle; and transporters abandoning trucks full of animals for hours in extremely hot or cold weather.

These enforcement documents are critical to improving the treatment of the billions of animals killed for human consumption every year. AWI reviews over a thousand of these records annually to monitor the USDA's enforcement of the laws. We produce reports, action alerts, and policy recommendations based on our analysis of these records. When we are able to access these records in a timely manner, we can contact the media to expose conditions at plants

where violations are frequent or extreme. In some cases, exposure of these conditions prompts the industry to take corrective measures, such as implementing more robust animal handling plans and removing workers that intentionally harm animals. Finally, the records are also of considerable interest to the public, which is becoming ever more vocal and engaged concerning the treatment of farm animals.

As part of its defense to AWI and Farm Sanctuary's lawsuit, the USDA asserted that court decisions preclude it from making proactive disclosures to the general public. We disagree with this narrow and illogical reading of FOIA. When Congress passed the FOIA Improvement Act of 2016, it codified what many people call the "rule of three." This provision requires agencies to "make available for public inspection in electronic format" records requested three or more times or records it finds are likely to be the subject of frequent requests. AWI and other animal advocacy organizations have requested these records time and time again and have been forced to wait months or even years for disclosure. The rule of three is a perfect solution to the time-consuming, labor-intensive process of FOIA: If the USDA made these records promptly and publicly available online, advocates would not need to spend time requesting the documents and waiting for an overwhelmed FOIA officer to fulfill requests.

The lawsuit is in its early stages. AWI will continue to update our members on its progress. 🐾



# FROM SHELTER TO SAVIOR:

## Rescues Shine as Working Dogs

**ANN** Hastings, director of violence prevention at 360 Communities, a community service organization in Minnesota, knew that something was missing from her department—a therapy dog. Finally, upon identifying the right handler, Hastings went online and within one day found Ranger, a dog with an unfortunate past who had been rescued and trained by another organization so that he could find a new home—and a new purpose.

As survivors of domestic and sexual abuse work with police and 360 Communities to recount the details of their traumatic experiences, Ranger is there to console and calm them. Ranger offers a unique kind of support that reduces their anxiety and enables them to get through a trial, whether by sitting on their feet, hugging them, putting his head in their lap, or just lying next to them. In establishing a program that uses a trained victim support dog in domestic violence cases,

360 Communities proved to be a trailblazer in Minnesota, and the program's success has been so overwhelming that the organization is looking to employ another dog. Other entities across the country, such as the San Bernardino County (CA) District Attorney's office, are implementing similar therapy dog programs.

What sets 360 Communities' therapy dog apart from those in many other programs, however, is the fact that he is from a shelter. Among some working dog providers, there is a bias against shelter and rescue dogs. They are viewed as "damaged goods" with unknowable histories that make them untrainable. Nothing could be further from the truth.

Shelters in the United States take in approximately 3.3 million dogs each year; about 1.6 million are adopted and about 620,000 are returned to their owners. That leaves more than a million dogs facing uncertain futures. Nonprofit organizations across the country are giving some of these dogs new purpose, better lives, and loving homes by training them to help others. Once the dogs graduate from training they are paired with a handler to work as a search and rescue dog, contraband or explosive detection dog, conservation dog (See *AWI Quarterly*, spring 2015 and summer 2018), diabetes alert dog, therapy dog, or disability support dog—or in another working dog "career." Rescue dogs thrive in these jobs. As search and rescue dogs, they have helped locate survivors after mudslides in California. As therapy dogs, they have had a significant impact on traumatized individuals—helping victims of abuse, consoling children and families after the Sandy Hook shooting, accompanying a veteran with PTSD on his return to a busy grocery store for the first time, and more.

There is, in fact, a high demand for dogs to help veterans with PTSD or other disabilities readjust to everyday life. K9s for Warriors works with rescue dogs to train and pair them with veterans experiencing post-traumatic stress, and the program has a year-long waitlist. The veterans go through training of their own so that they understand how to continue to train, work, and play with their dogs for a mutually beneficial relationship. Service dogs are not like pets; their job is to attach themselves to their handler and give them their full attention at all hours. These organizations and the rescue dogs go through an extensive process just to pair one dog with one person in need.

The Search Dog Foundation (SDF) rescues and trains dogs from shelters until they are ready to be paired with first responders, and the dogs are guaranteed a lifelong home. Dogs who graduate from SDF training are certified by the Federal Emergency Management Agency to respond to natural disasters all over the world. SDF had dogs searching



SEARCH DOG FOUNDATION

for survivors after the earthquakes in Chile and Haiti, Hurricanes Harvey and Irma, and the bridge collapse at Florida International University, among other disasters.

Denise Sanders with SDF describes what they look for in shelter dogs before they can be initiated into their training program: "Dogs with an innate drive and need to possess a toy, and a laser-like focus to find that toy. The drive, the energy, and the focus are really the top three characteristics that we look for," she says, "because that's what has to carry them through their training and career. There would be no point in going through piles of rubble if the reward isn't worth it." When it comes to being out in the field, Sanders says, "It's clear that these dogs love their jobs. It's like playing hide and seek all day. A dog's dream come true."

Not every dog is up for the challenge. The dog who is happy lounging around all day is not a dog who will enjoy being out in the field working and training. Dogs who are high energy, people oriented, and show no signs of aggression are ideal, says Andrew Kitchen, manager of training with K9s for Warriors. In addition to having the right personality, the dog must be without any physical disabilities such as hip-dysplasia or arthritis, and generally must be between 1 and 3 years old, so that they can have a long career. These criteria narrow down the number of potential working dogs. Sanders says that the process is akin to "finding a needle in the haystack, or we call it a diamond in the 'ruff.'"

Rescue dogs differ from purpose-bred dogs in that the latter are similar in their histories. Purpose-bred dogs are usually bred through the working dog organization, given to a puppy raiser until they are between 16 and 18 months old, then returned to the organization for official training. Because puppy raisers follow strict protocols, trainers find that dogs raised in this way process information in a much more uniform

way than rescue dogs. But that just means that trainers of rescue dogs have to get to know each dog as an individual.

Kitchen started as a puppy raiser of purpose-bred dogs but switched to K9s for Warriors so that he could work with rescue dogs. His experience allows him to see the differences in working with purpose-bred and rescue dogs. With rescue dogs, there are always past experiences that will influence their actions and reactions. Many shelter dogs are eager to meet new people and form new bonds, while others are more cautious and will not show their true personality so easily. "It's okay to be a little afraid of the world," Andrew says, referring to initial interactions with shelter dogs, "as long as the dog shows that [he/she] can recover relatively quickly." During training, the trainers get to know the dogs and tailor training to suit that particular dog.

When it comes to training, rescue dogs tend to do very well with very low drop-out rates. SDF, whose mission is built around rescue dogs, collaborated with other organizations to refine its training methods and, as a result, increased the success rate of its search and rescue dogs from 15 percent to 85 percent. "It's about problem solving," says Kitchen of K9s

for Warriors, when asked about the success rates of working with rescues. Even if a dog reacts negatively to a specific exercise, the trainer will be the last to give up on him. It's okay for the dog to fail multiple times; the trainers do not expect perfection and recognize that many of the dogs are working through their own trauma. In fact, many veterans much prefer having a rescue dog for that very reason, feeling that they can heal together. If a dog continues to show negative reactions to training, and if the trainer agrees that the dog would be better off as a companion animal, then the organization will transition the training to suit that lifestyle.

Ranger, the victim support dog, is a perfect example of a rescue dog who didn't shine right away but ended up finding his calling. Once Ranger graduated training, he was paired with a handler as a diabetic alert dog. Although he succeeded at part of his job—alerting his handler—he never took the next step of going to get help. His next gig as a guide dog also wasn't a good fit. However, when he was taken to console survivors and families after the shooting at Sandy Hook, he found his strength as a victim support dog. His success in Minnesota speaks for itself—and for the potential for shelter dogs to find "careers" at which they can excel. 🐾

*Buck, shown here, was trained by K9s for Warriors. The organization rescues dogs from shelters and pairs them with veterans experiencing PTSD. The dog gets a home and a buddy for life, and in turn helps the veteran regain their footing. More and more service dog organizations are recruiting dogs from shelters. These dogs provide comfort to trauma victims, aid individuals with disabilities, engage in search and rescue missions, and more.*



*Mice on corncob bedding. Recent studies indicate this form of bedding—popular in the industry—may contribute to aggression.*

## CRANKY MICE? CORNCOB BEDDING MAY BE CULPRIT

AWI recently attended the annual meeting of the American Association for Laboratory Animal Science (AALAS) in Baltimore—the largest meeting on laboratory animals in the United States. At this year’s meeting, several presentations focused on solving the issue of aggression in group-housed mice. Group-housing of social species has important animal welfare benefits, but it can also be associated with aggression. Researchers from Stanford University and the Swedish University of Agricultural Sciences, who studied the factors that contribute to aggressive behavior in group-housed mice, found that aggression is higher in mice housed on corncob bedding compared to aspen chip bedding. This is an important finding, because corncob bedding is widely used across North American research institutions. Previous research has shown that corncob bedding is also associated with other welfare concerns, such as lower sleep quality in rats. Housing mice on bedding other than corncob may not only lead to better group cohesion—it may also help them (and caretakers) sleep better.

## AWI UPDATES REFINEMENT DATABASE

AWI’s Laboratory Animal Advisor, Dr. Joanna Makowska, has updated AWI’s database on the refinement of housing, husbandry, care, and use of animals in research. More than 600 new entries were recently added, bringing the



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total number of citations to more than 6,000. The database curates published scientific articles, book chapters, and books related to refinement. Among the wide range of topics: social housing, welfare assessment, handling, training, environmental enrichment, analgesia, husbandry, tissue and fluid collection techniques, and abnormal behaviors. Animals covered range from those commonly used in research such as nonhuman primates, dogs, cats, rabbits, rats, mice, and zebrafish to the less common ones such as amphibians, reptiles, chickens, and zebra finches. The database, which will continue to be updated on a quarterly basis, is available at [www.awionline.org/refinement](http://www.awionline.org/refinement).

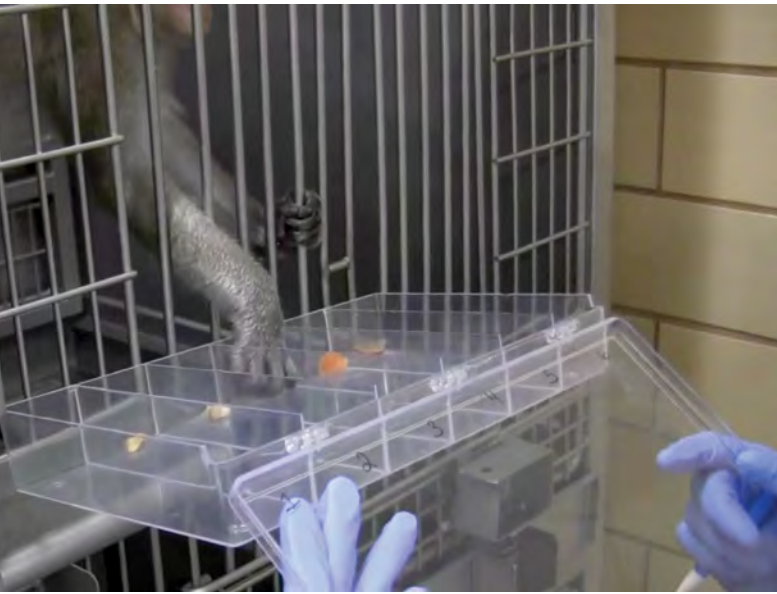
## SANCTUARY FOR FORMER LAB CHIMPS, BUT WHO MIGHT BE LEFT BEHIND?

Three years ago, the National Institutes of Health (NIH) announced that it would no longer support experimentation on chimpanzees. The NIH stated that all of the chimps that it “owns” or supports would be eligible for retirement to Chimp Haven, a sanctuary in Louisiana. The animals would be moved “with

careful consideration of their welfare, including their health and social grouping” as space became available.

At present, 257 chimps are still being held at three research facilities in San Antonio and Bastrop, Texas, and Alamogordo, New Mexico, waiting for their turn to be relocated. Recently there have been efforts to impede the retirement process. A large number of chimps are being labeled “at-risk” with the suggestion that they need to stay put because the move to the sanctuary might harm or kill them. But the facilities sowing doubts about moving the chimps are the very ones currently receiving federal funds for housing them.

The NIH’s solution is to let an “independent veterinary panel” (one unlikely to have chimp expertise) make the final decision about chimps deemed “too ill to be moved.” These so-called independent vets are actually *employed by the NIH*. In fact, there is no evidence that a move would be risky. These poor chimps deserve a taste of the good life and should be moved with their social groups as a matter of urgency.



*A macaque chooses an item from an array of food options during a preference assessment. Discovering the monkey's favorite "treat" helps make positive reinforcement training more effective.*

## Assessing Laboratory Macaque Food Preferences in Positive Reinforcement Training

*Angelika Rehrig, Louis DiVincenti, Deborah Napolitano, and David McAdam*

The psychological well-being of laboratory primates is enhanced when they are allowed to voluntarily participate in their own care through a process called positive reinforcement training (PRT). Through PRT, primates are trained for venipuncture, pole and collar restraint, and experimental testing procedures. PRT relies on rewarding the animals when they perform the desired behavior (e.g., submitting their arm and remaining still for a blood draw). To improve PRT, the process must be both practical and effective at creating the desired behavioral outcomes. One way to accomplish this is to use the right reinforcer, or reward. Often, the reinforcer is chosen by a caregiver's assumptions of what is reinforcing to a particular animal. This method is subjective and does not take into account fluctuations in preference.

Since food and fluids are often used as reinforcement with primates, a plethora of items could potentially be used during PRT. In contrast to the "best guess" approach, preference assessments systematically and objectively determine preferred items that could function as reinforcers.

Our study, which was funded through an AWI Refinement Grant, evaluated the use of the "multiple stimulus without replacement" (MSWO) preference assessments to determine preference hierarchies and stability of food choices for 14 cynomolgus macaques over the course of a month. To investigate whether the most preferred foods functioned as reinforcers, half of the participants completed concurrent-schedule reinforcer evaluations. The practicality of the MSWO was also evaluated in terms of overall time investment.

The MSWO clearly identified food preferences for all 14 macaques and required little time to do so (mean = 3mins 57s). Yogurt-covered raisins/peanuts and grapes were the most preferred items. On average, dried pineapple and banana chips were moderately preferred, while dried apricots and peanuts were the least preferred. All but one of the macaques had unstable preferences across the four assessments, which is consistent with results from similar studies. Following the assessments, the reinforcer evaluations demonstrated that the most preferred item did function as reinforcement for a simple task. The primates were more willing to work for their most preferred item versus the least preferred.

Determining individual preferences can improve PRT by altering a primate's motivation to learn. Since preference assessments identify a hierarchy of preferred foods, reinforcers can be varied so as not to decrease their potency. If a primate prefers grapes, but always receives them during PRT, their effectiveness may diminish over time. However, if the preference hierarchy is known, reinforcement can be varied such that the most preferred items are used for demanding or novel behaviors, while moderately preferred items are used for less demanding behaviors. Routinely identifying preference may even result in more completed trials and increased data collection.

In conclusion, the effectiveness of PRT relies heavily on the relative power of reinforcers to reward desired behavior. Since preferences change over time, the MSWO provides a quick and accurate method to regularly identify preferred reinforcement for primates. 🐵

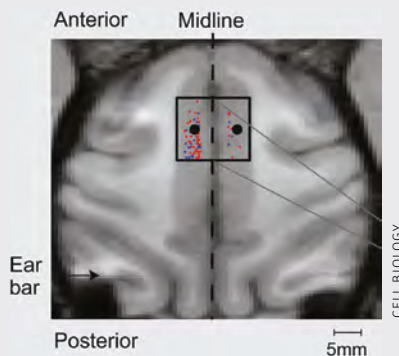
# No, Monkeys Don't "Volunteer" to Have Their Brains Probed

*This study involved two monkeys that learned to play a computer game that gave them drops of juice when they won. The monkeys played voluntarily because they liked to gamble...*

This line, from a September *NPR* story, would give listeners an impression of monkeys happily playing computer games. That same month, a *Washington Post* story stated that the researcher—Veit Stuphorn of Johns Hopkins University—simply places the monkeys in front of a computer screen to make choices and gamble for fluid rewards, then tracks their eye movements with sensors. “The monkey used his eyes to make the choice,” Stuphorn told the *Post*.

That last part is at least partially true, since the monkeys could essentially move only their eyes. Why? Because Stuphorn—for decades now—has forced monkeys into primate chairs, restrained their heads, and surgically affixed a chamber to their skulls so that electrodes can be inserted into their brains for NIH-funded research on decision making, executive choice, and gambling. He has positively cited “years of experience with the water restriction method” to help train the monkeys.

In the September 2018 paper that prompted the stories, Stuphorn conspicuously fails to mention the chairing of the monkeys or their heads being restrained. Indeed, the only hint in the paper of his extreme restraint is the phrase “ear bar” mentioned in a figure



of a monkey's brain. (See photo above.) An ear bar is a metal rod on a stereotaxic device inserted into the animal's ears to immobilize the head for insertion of electrodes. In at least five papers spanning the last eight years, Stuphorn has claimed that these monkeys—helpless, restrained, electrodes piercing their brains—are “free to choose” what their eyes will follow.

Stuphorn also claims in the September 2018 paper that the two monkeys, “A” and “I” (identified in the *Post* as Aragon and Isildur) had “not participated in any other study.” Yet a 2015 paper not only identified monkeys “A” and “I,” but also cited the same exact weights as in the most recent paper. Again, Stuphorn failed to mention the extreme head and body restraint.

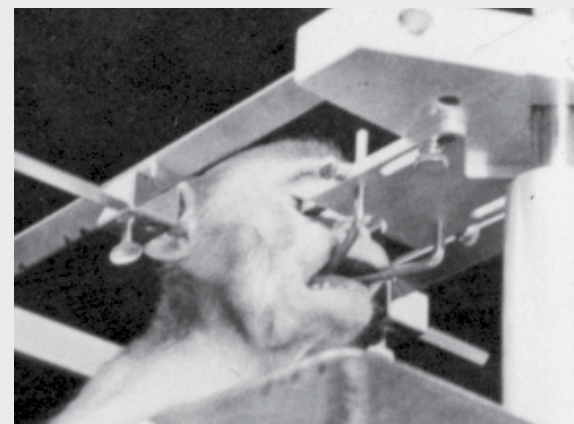
To make matters worse, of the 96 pages comprising a PDF printout of the 2015

paper (excluding references), 32 contain peer reviewer questions to Stuphorn, with multiple back-and-forth questions and answers. Yet, there is no comment anywhere in those 32 pages about Stuphorn's failure to mention the head and body restraint.

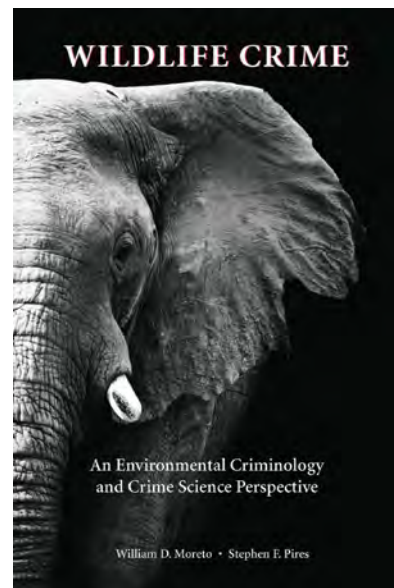
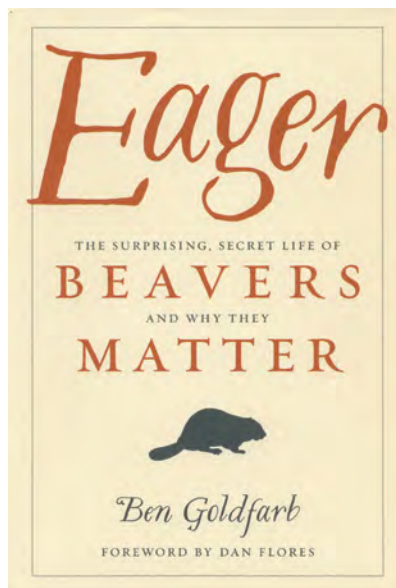
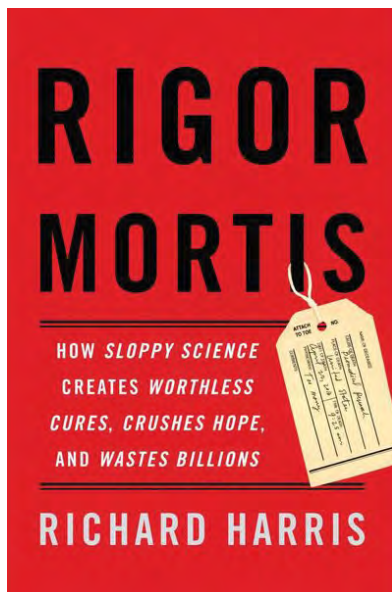
This failure is not just about public relations; it is a serious breach of scientific publication guidelines. There is a reason that papers have Materials and Methods sections. And with multiple studies, Stuphorn has failed to comply with this basic guideline of providing such information.

The *Post* reported incorrectly that Stuphorn began working with monkeys about a decade ago, and Aragon was his first. In fact, Stuphorn has been conducting invasive brain experiments on monkeys since at least 1999. In a 2010 NIH-funded study, he had three monkeys he used in prior experiments killed so he could remove and section their brains.

Gambling is a human addiction. The \$4.4 million NIH has spent to date on Stuphorn's highly invasive and ethically questionable research would be far better used for human-centered research and treatment. 🐾



*A monkey (not one from Stuphorn's research) restrained in a stereotaxic device with ear bars.*



## RIGOR MORTIS

Richard Harris / Basic Books / 288 pages

In *Rigor Mortis: How Sloppy Science Creates Worthless Cures, Crushes Hope, and Wastes Billions*, award-winning science journalist Richard Harris takes a harsh look at biomedical research and exposes widespread failures. Harris describes problems with the animal models that are used, the experimental design, the analysis of the data, reporting of results and overall rigor. He details the enormous failure to produce study results that are reproducible and describes results that are just plain wrong. He also reports on the impact of unconscious bias among researchers and how the business of doing research so as to advance one's career and reputation is a huge stumbling block to sound science.

Harris writes, "Misleading animal studies have led to billions of dollars' worth of wasted efforts and dead ends in the search for drugs"—not to mention countless animal lives. An entire field may experiment using a certain animal model even though it may not be an effective model of disease. For example, he describes studies on ALS (Lou Gehrig's disease) using mice with a specific mutation (SOD-1) who have shorter lives and symptoms indicative of ALS, but who don't

actually develop it. Harris states, "Scientists developed this mouse model after discovering the SOD-1 mutation in some people who have an inherited form of ALS. But only 2 percent of people with ALS carry this mutation, so it's hardly the whole molecular story behind the disease."

The book serves as a caution to a public that has blindly trusted and relied on biomedical research, and as a call to scientists to reform the process so as to improve upon research outcomes.

## EAGER

Ben Goldfarb / Chelsea Green Publishing / 304 pages

The past 400 years were not kind to most populations of wildlife in North America. Overexploitation was rampant, forests were razed, prairies were plowed, and rivers were dammed. As concerns mounted over plummeting numbers of deer, ducks, and other valued species, a burgeoning conservation movement came together to pass laws and preserve habitat, allowing many of these populations to rebound with great success.

However, lost in the shuffle was the beaver, *Castor canadensis*. In his remarkable book, *Eager: The Surprising, Secret Life of Beavers and Why They Matter*, environmental journalist Ben Goldfarb recounts the impact of the fur trade in decimating a continent's beaver population, followed by the gradual realization of conservationists that this large rodent provided more than the raw materials for men's hats. Goldfarb traveled to visit "beaver believers" far and wide, and recounts the struggles that these castorid enthusiasts face in making their case for the benefits to ecosystems and society of having robust beaver populations.

Beavers manipulate water dynamics in streams and rivers. This makes them premier ecosystem engineers, as these alterations affect the flow of water through the landscape, with profound impacts on plant and animal diversity and abundance. Goldfarb rightly describes beavers as "ecological and hydrological Swiss Army knives." What readers of this book will come to understand is that beavers provide so much more than a stick-and-mud dam holding back a small pond containing frogs, turtles, and dragonflies. Over a million years, billions of beavers sculpted the face of North America, earning them the title of grandmaster keystone species.

Today, beaver believers clash with fur trappers, highway departments, agriculturists, and homeowners over the presence of beavers and beaver dams. There is a challenge in managing beavers, especially when, as pointed out by Goldfarb, the benefits of having beavers (such as the expansion of fish and wildlife habitat and the storage of water) accrue to society in general, while individuals suffer the costs: drowned trees, damaged landscaping, plugged irrigation canals, and flooded culverts. There are solutions, but the political will to use them often is lacking.

With *Eager*, Goldfarb has written a book valuable to both the biologist and the general public. If there is a controversy with beavers in your community, step one is going to be reading this book.

– Robert Schmidt, PhD, AWI Scientific Committee

## WILDLIFE CRIME

William D. Moreto and Stephen F. Pires / Carolina Academic Press / 262 pages

*Wildlife Crime: An Environmental Criminology and Crime Science Perspective* is a timely and most welcomed book, but fair warning: It is not light reading! Rather, it is a rigorous university textbook, apparently intended for students enrolled in criminal justice curricula, who want to specialize in protecting wildlife from illegal exploitation. Publication of this book—which applies traditional criminology concepts (e.g., crime pattern theory, routine activity theory) to the understanding of wildlife crimes—is a hopeful sign that universities are expanding their criminal justice programs to address such crimes. That alone is cause for celebration.

The most encouraging aspect of this book is its great emphasis on deterrence. All criminal trafficking may be viewed as a sequence of events: One criminal acquires the contraband; another smuggles it; someone else bribes an official to "look the other way"; a skilled technician fabricates the contraband into a salable item; an accountant handles the illegal banking and money laundering needed to pay everyone; a local dealer delivers the goods to the consumer.

It is much the same for wildlife as it is with drugs, illegal weapons, bootlegged perfume, pirated DVDs, and other types of goods trafficking. In almost all such cases, society's interests are served if the chain of criminality is cut anywhere, so as to keep the contraband from reaching the consumer. Keep drugs out of the hands of users, keep guns out of the hands of robbers. But in wildlife crime, society's interests are the protection of the live animals in their natural habitat. Preventing the poacher from actually killing or trapping an animal is a fundamental priority. By the time a crate of ivory or exotic furs is seized, the animals are already dead.

Deterrence, therefore, should be an essential element of wildlife criminology. The Moreto-Pires text underscores this admirably, and thus earns a place within the library of anyone with serious interest in suppressing crimes that consume the lives of millions of animals every year.

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## 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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## VICTORY! BLM STANDS DOWN ON STERILIZATION SCHEME

In the last *Quarterly*, we discussed the Bureau of Land Management's plan to conduct mass surgical sterilization experiments on wild horses from the Warm Springs Herd Management Area in Oregon. Colorado State University was slated to help monitor and assess the welfare impacts of the surgeries but—amidst enormous public backlash—withdrawn from the project.

Rather than back down, however, the BLM simply dropped scientific observation of animal welfare from its study design. In late September, AWI and allies sued to stop the agency from performing these risky and inhumane experiments.

The BLM aimed to surgically sterilize 100 recently rounded up wild mares in a nonsterile corral facility using a method known as “ovariectomy via colpotomy”—whereby a veterinarian inserts his arm into a mares' abdominal cavity through an incision in the vaginal wall, manually locates the ovaries, then twists, severs, and removes them using a rod-like tool with a chain on the end. The National Academy of Sciences explicitly warned the BLM against using this procedure due to the associated health risks and complications. The BLM was also proposing to perform

these ovariectomies on pregnant mares in an effort to quantify the incidence of abortions that would result.

On November 2, Judge Michael Mosman from the US District Court for the District of Oregon granted our motion for a preliminary injunction to stop the experiments, finding that AWI and our co-plaintiffs were likely to prevail on claims that the BLM's restrictions on public observation of the surgeries violated our First Amendment rights, and that the BLM's decision to drop its inquiry into whether the sterilization procedure was “socially acceptable” was arbitrary and capricious. Judge Mosman also noted the legitimacy of our concerns about the BLM's cavalier abandonment of experimental protocols to monitor animal welfare. Less than a week after the ruling, the BLM—to our tremendous relief and joy—announced it was canceling this stunningly ill-conceived project altogether. 🐾

