

AWI Quarterly

SUMMER 2020 / VOLUME 69 / NUMBER 2



AWI Quarterly

A MESSAGE FROM THE PRESIDENT OF AWI

Dear Members and Other Friends of AWI:

I'm pleased to share the summer issue of our magazine with you, where you will find news of our successful effort to end wildlife-killing contests in Colorado, reviews of a fascinating book on grizzly bears and a couple of absorbing educational nature series, and more. Much of this issue is devoted to animal welfare as it relates to the pandemic. We discuss the challenges faced by animal shelters during this difficult time and how people can help by fostering or adopting shelter animals. We examine how global society's handling of wildlife and farm animals has greatly increased the risk of pandemics, and what we can do to lessen this risk while also treating animals better.

For those of you who have been receiving the print version of the *AWI Quarterly* at work, we are glad that it has reached you. Nevertheless, for now, it may be more

convenient to have it sent to your home instead. You may also wish to receive a digital edition of the *Quarterly* rather than (or in addition to) the print edition. If so, please email us at awi@awionline.org or call us at 202-337-2332, and we would be happy to make the change. If and when you elect to change back, that won't be a problem.

Lastly, I want to mention that at this time of year we typically conduct a major fundraising appeal (one of only two we do each year). However, because of the economic disruption related to the pandemic, we opted to forgo a request for contributions at this time. We appreciate the kind contributions that are coming in from those who are still able to do so, and we are grateful for all our members and friends regardless. Thank you for your continued concern for animals.

With best wishes for you and yours,

Cathy Liss

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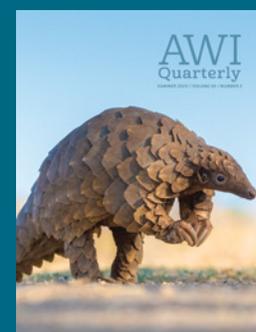
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ABOUT THE COVER

A ground pangolin (*Smutsia temminckii*). Pangolins are the world's most trafficked mammal, hunted for their meat and scales, which—though made of simple keratin—are coveted for inclusion in traditional medicines. Wildlife trade, both legal and illegal, is not just harmful to animals. It's harmful to us. This year, we are finding out just how dangerous it can be, as the COVID-19 virus—which jumped to us from captured wildlife—spreads around the globe and wreaks havoc on human society. For more on how wildlife trade and deadly pandemics are intertwined, turn to page 14. Photograph by Jeffrey Van Daele.

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HORSE TRANSPORTATION SAFETY ACT POISED TO MOVE FORWARD

The use of double-deck trailers to transport horses is inhumane and can lead to debilitating injuries. With their low ceiling clearance, these trailers are designed to haul shorter and stouter animals such as cattle and hogs, not horses. The US Department of Agriculture itself has concluded that these vehicles “do not provide adequate headroom for equines” and that horses are far more likely to be injured in double-deck trailers than in single-deck trailers.

To remedy this, AWI has long called for passage of the Horse Transportation Safety Act (HTSA)—a bill that would prohibit the transportation of horses across state lines in a motor vehicle containing two or more levels stacked on top of one another. In the current Congress, the HTSA (HR 1400) is being led by Representatives Steve Cohen (D-TN), Peter King (R-NY), Dina Titus (D-NV), and Brian Fitzpatrick (R-PA). There are 132 lawmakers cosponsoring the bill this session, the highest level

of cosponsorship the bill has garnered since it was first introduced. We are delighted to report that, as this issue went to press, the House Transportation and Infrastructure Committee unveiled its surface transportation bill, and the HTSA is included in this package. The bill is expected to be voted on by the full House later this summer in advance of a September 30 deadline to reauthorize federal transportation programs. AWI will continue spearheading the effort to ensure that the HTSA reaches the finish line.

CHICAGO BANS HORSE-DRAWN CARRIAGES

In other news related to horse welfare, a major victory was gained when the Chicago City Council voted 46–4 to ban the use of horse-drawn carriages in the city. The law takes effect next year. Horses conscripted into this business endure long hours pulling 1,000-pound carriages on city streets while being exposed to temperature extremes, air pollution, and traffic congestion. Spooked horses can lead to carriages

tipping over, endangering people and horses alike. Alderman Brendan Reilly summed up the issue well, noting that horses “weren’t bred to be sucking gas fumes from the back of CTA buses and comingling with cement mixers. That’s not humane treatment of animals.”

LEGISLATORS PUSH FOR ANIMAL WELFARE MEASURES

Although the coronavirus pandemic kept Congress more or less shuttered this spring, AWI nonetheless worked with legislators to get strong animal welfare positions on record. A bipartisan group of 78 representatives and 32 senators asked their respective leadership that any coronavirus-relief legislation include support for domestic violence survivors with companion animals. The congressional letters requested additional funding for the PAWS program, created in 2018 to provide grants for emergency shelter and transitional housing assistance for domestic violence survivors and their pets. This is especially critical now, as the stay-at-home orders and social isolation needed to break the pandemic have led to an increase in domestic violence incidents.

Meanwhile, a lack of slaughter capacity is causing some agricultural operations to consider killing and disposing of large numbers of farm animals. (See article on page 25.) Twenty members of Congress sent a letter to the US Department of Agriculture urging it to ensure farmers use only humane methods for depopulation of animals during the pandemic. The congressional letter stated that ventilation shutdown should not be used under any circumstances, and water-based foam (which drowns and suffocates birds) should “only be used when all other options have been exhausted.”

Conditions are often hard for horses pulling carriages in urban environments.

The Chicago City Council voted overwhelmingly to end carriage rides in the Windy City.



THOMAS HAWK

New USDA licensing rules mandate better care of dogs held by dealers, researchers, and exhibitors. Unfortunately, the rules are silent on the welfare of other animals.

USDA Steps Up— and Steps Back— with New License Renewal Rules

The US Department of Agriculture is making significant changes to the licensing requirements under the Animal Welfare Act (AWA), and is increasing requirements for dogs at the premises of dealers, research facilities, and exhibitors. The final regulations, published in the *Federal Register* on May 13, will go into effect in November.

Year after year, licensees with histories of subjecting their animals to appalling mistreatment have had their annual license renewals rubber-stamped by the USDA, resulting in the continued suffering of untold numbers of animals. However, under the new regulations, the USDA will be ending its practice of automatically renewing the licenses of dealers and exhibitors regardless of whether they are in compliance with the AWA. In the fall, the USDA will begin requiring all new or existing licensees to apply for new licenses every three years, and each will have to demonstrate compliance with the minimum standards under the law through pre-license inspections.

Unfortunately, each applicant for a license will have up to three chances to pass its pre-license inspection. Further, each of these inspections will be scheduled in advance, providing an opportunity for the facility to hide or gloss over any deficiencies before



JO-ANNE MCARTHUR / WE ANIMALS

the inspector arrives. Inspectors will be busy conducting pre-license inspections, so it is unknown how many *unannounced* compliance inspections will be possible during the three-year period between pre-license inspections. Particularly disturbing is that it appears that any citations the licensee receives during unannounced compliance inspections—regardless of how egregious or numerous they may be—will not be considered by the USDA in determining if a new license will be issued. Instead, the department will *only* consider the results of its announced pre-license inspections.

The other change mandates new, more extensive requirements—but just for the care of dogs, not for all species. These additional requirements are welcome, but it is incongruous that dogs are the only beneficiaries. Under the new rules, “Facilities with dogs will be required to have an expanded Program of Veterinary Care (PVC) that includes annual, hands-on veterinary exams for adult dogs by the attending veterinarian and addresses husbandry issues for hair coat, toenails, teeth, skin, eyes, and ears.” Medical records regarding treatment of ill and injured

dogs and preventive health care will be required. Research facilities will have to maintain records for three years after the death of the dog, but dealers and exhibitors will only be required to maintain them for one year. Finally, dogs must have continuous access to potable water, while cats and monkeys may still have their access to water limited to twice a day, and other species may receive water only once a day. Continuous access to water so that animals do not suffer from thirst is essential to animal health and well-being. It is incomprehensible that the USDA has again failed to implement basic animal welfare and veterinary care standards for all covered species.

The USDA must seek to ensure that all of its inspections, whether pre-license or routine compliance, are conducted in a thorough, well-documented manner. It must also continue to use unannounced inspections and, if warranted, take appropriate enforcement actions. And it is essential that the department further revise its regulations to expand its most basic requirements for veterinary care and continuous access to water to all the animals it regulates. 🐾



Curious rats peer out from an observation box. Gentle handling and early training of rats in research reduces their stress.

Handling AND Training OF Mice AND Rats RESULTS IN Calmer Animals DURING EXPERIMENTAL PROCEDURES

by Camilla Bengtsson and Marie Eriksson, Researchers/
Project Leaders, RISE Research Institutes of Sweden

For most people with pets, handling and training their animals is important. Living with an “undomesticated” pet can be trying, especially when the day comes for a visit to the veterinarian. The same should be true for our laboratory rodents. If we handle and train them well, our work with the animals becomes easier and safer, and we help the animals feel safe in the procedures to which they are exposed.

We take this very seriously within the in-vivo department of RISE Research Institutes of Sweden. Since 2015, we have

actively worked to improve the welfare of mice and rats in toxicology studies in order to reduce stress, anxiety, and fear. By handling and training the animals gently, with respect for individual differences, we have reduced stressful behaviors and shown that collaboration and social contact are possible between laboratory animals and handlers in experimental procedures.

We handle and train all our rodents from the very first day they arrive at our facility, usually at 4–7 weeks old. All animals are individuals. This becomes very clear when unpacking the animals, who will engage in differing defensive behaviors—in rodents, most commonly flight,

freeze, or fight. The unpacking procedure itself, therefore, is very important for our understanding of and continued collaboration with the animals.

How we handle and train the animals from arrival until the study begins will be the foundation for how well the animals cope with the various procedures they will encounter in the study. Trust is the most important aspect of animal handling and training. We avoid forced restraint and sedation if possible.

We should also think about how the animals perceive their environment. What do they see, hear, smell, and feel? How can we help them get a positive picture of their new situation and of us, and how can we help them have as good a life as possible as a laboratory animal? The cage—their new home—must be designed carefully in order to best meet the animals' primary needs.

Most rodents are housed in groups, so we need to ask: Do they have the ability to eat, drink, and rest without competition from other individuals? Are there enough activities to keep them occupied during their waking periods? Rodents need bedding material, chew sticks, multiple levels, and room to stand up straight and climb.

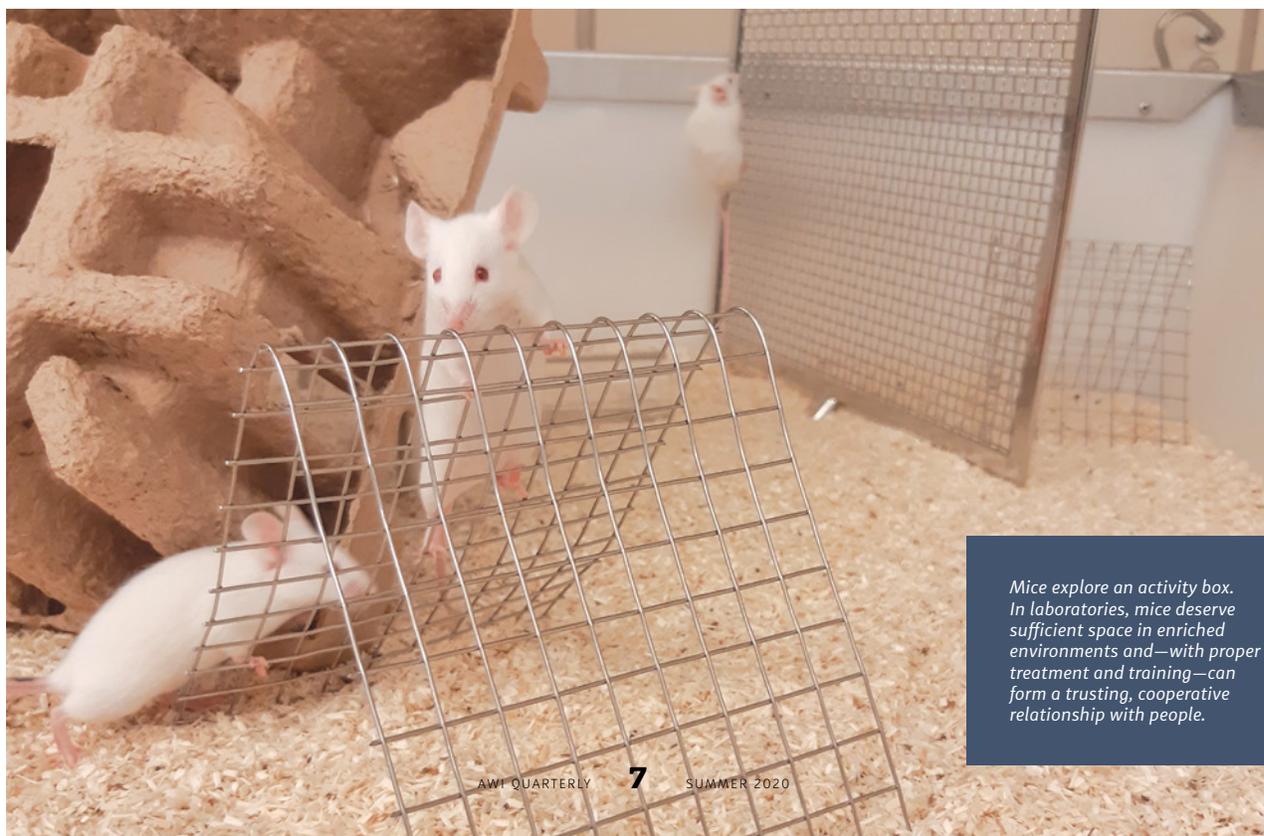
The environment outside the cage is also important. Light, temperature, and humidity need to be optimal. Rodents are very sensitive to noise, so it is important to consider how they perceive potentially disturbing noises such as ventilation and the noise we make when we work in the room.

Our rats live in groups of 2–10 in modified rabbit cages, but upon arrival they are first placed in traditional cages in smaller groups. They stay in the smaller cages during the first two handling sessions. The reason for this is to avoid having to chase rats in the big cages before they have become used to us and the environment. We want to avoid inducing defensive behaviors and keep them as calm as possible.

When the animals are ready to move to their big cages, they go out in our observation boxes. In these boxes, we can observe them easily and evaluate the progress resulting from our previous contact. We always want the animals to feel safe approaching us.

We handle and train all our animals approximately five times before the study begins during the acclimatization period, regardless of the length of the planned study. Our goal is to build trust and create recognition in the procedure(s) the animals will be exposed to in the study. We want them to trust us, our hands, and a Vetbed (a plush mat designed for animals to rest on) that we always use during handling and training and in the study. The training is documented, and the observations we record mainly relate to the animals' defense and stress behaviors.

During the first training session, the most common behaviors we see are freeze and flight (seldom fight), vocalization, defecation, urination, back flipped ears, eyes half shut or shut, stiff body and tail, and agitated tails. We can also see if there are any outliers in stress reactivity. Some animals



Mice explore an activity box. In laboratories, mice deserve sufficient space in enriched environments and—with proper treatment and training—can form a trusting, cooperative relationship with people.



CAMILLA BENGTSSON

Rat resting on a Vetbed while a technician gently habituates the rat to tail touching.

are simply more scared than others, and this can be good to know before the study begins, especially when it comes to making relevant observations concerning what can occur in the study. Although the training may be conducted every day, we prefer handling mice—who, in our experience, are more easily stressed than rats—every second or third day. Early on, we focus on calm handling and cuddles, just to let the animals realize that we are friendly, our hands are safe, and that the Vetbed is nice to sit on. One session takes 1–2 minutes and can be done individually or with cage mates on a table or in the lap.

During session 2 through 5, we focus more on the training for upcoming procedures. If the animals are to be dosed orally, we train the dose grip. At session 5, we give them a little bit of water through a soft tube. We also train different sampling procedures. If the sampling is to be done by the tail, we handle the tail more, and pick at it gently with our nails. If we are to sample via saphenous vein, we train to familiarize them with the grip and with the noise of the shaving machine. If the animals must be put in restrainers, e.g., for inhalation studies, we train the animals to freely enter the restrainer by putting a treat in the front of the restrainer.

All training is reward based, and the reward can be something good to eat, gentle touch, an activity (e.g., climbing), or voice reward. We aim to always end a training session with something positive; the same applies after procedures in a study. All our animals seem to enjoy going out in the observation boxes (see photo, page 6), so this can also be used as a positive reinforcer.

The training and handling protocols are general and flexible and could easily be transferred to other research areas, facilities, or even breeders. Our documentation, photos, and films help us to learn more about “best practices” for different individuals and strains, and we can use them to create educational materials for others.

Handling and training rodents before a study begins can seem time-consuming, but the truth is that it saves time. When we start our studies, we never have problems with dosing and sampling procedures due to stressed and struggling animals, and we minimize stress-related mistakes. Most important of all is that we have calm animals who collaborate with us in all situations even though it is not all pleasant, and we can do our work with great comfort knowing we have done everything possible to create a good welfare situation for our animals during their stay here with us.

It also allows us to get to know our animals and their behavior well before the study, which results in us making much more accurate observations of them in the actual study. It is easier for us to see if a behavior is due to the compound or stress. Stress affects the whole-body system, so we also believe that the test results are more reliable if the animals are calm and happy. We see so many advantages of handling and training the animals that it has become a standard procedure, documented in all our study files.

Looking back at our careers working with laboratory rodents, we regret that for so many years we didn't consider these factors. Cognitive ethology wasn't so accepted years ago, but today most people have a different view of animals in general, and more and more people in a variety of fields see the advantage of working with unstressed and cooperative animals. It's timesaving, educational and, most importantly, better welfare for the animals *and* the personnel (no animal lover wants to distress animals in their daily work). It's also better for scientific outcomes, since calmer animals are more “normal” physiologically and behaviorally, and therefore more representative of the humans for whom they serve as models.

We have produced two short videos showing our work, available for viewing at <https://bit.ly/3e5M1DW>. We also hope to get funding to produce a one-hour educational film, explaining in detail how and why we train and work with our animals, for those who want to apply this process to improve welfare for their laboratory animals in their own circumstances and environment.

Small changes often lead to bigger ones, and when a high culture of care has been accepted, there is no turning back. All animals, regardless of their situation in life, always should be treated with love and handled with respect for the individual. Our laboratory animals should be looked upon as our companions and heroes. Without them, we would not be where we are today. If we really need to use them in our science, we should do this with great care! 🐾

SCIENCE SHINES HARSH LIGHT ON RESEARCH CHINCHILLA SUPPLIERS

I would not allow animals from this facility into my program. So stated Tracy Parker, president of the American Association for Laboratory Animal Science (AALAS), in a hard-hitting article by Meredith Wadman in late May in the prestigious journal *Science*. Parker was referring to Moulton Chinchilla Ranch (MCR) in Chatfield, Minnesota, a supplier that was the subject of an article in the spring 2020 *AWI Quarterly*. She indicated that MCR is included in the AALAS Buyers Guide simply because it is licensed by the US Department of Agriculture. It is up to researchers and institutions, Parker says, to check for compliance with the Animal Welfare Act (AWA).

USDA inspection reports, according to *Science*, indicate MCR and another chinchilla supplier—Ryerson Chinchilla Ranch (RCR) in Plymouth, Ohio—“failed to identify and treat sick and injured animals, kept them in filthy barns and excrement-laden enclosures, and failed to clear dead animals.” USDA inspectors documented numerous AWA violations by MCR and RCR, the two suppliers “most often cited in

recent papers in journals including *Cell* and *Science Translational Medicine*.”

A hearing before an administrative law judge of the charges against MCR—an operation with a “9-year record of violations”—was scheduled for April 6 but has been postponed indefinitely. Against RCR, the USDA has taken no action, despite a 2017 citation “for failing to disclose the existence of 1000 chinchillas and for using an unspecified ‘painful’ and ‘unacceptable’ method of euthanasia.” Both suppliers have been cited repeatedly by the USDA for failure to provide appropriate veterinary care.

A University of Rochester geneticist who used MCR chinchillas in a study several years ago called the USDA complaint against MCR and photos from two 2017 inspections (obtained by the nonprofit Animal Folks) “disturbing.” She added, “There is no excuse for such preventable injuries as sores under tight-fitting collars. ... I hope an alternative vendor with higher standards would be available for the research community.”

AWI, which provided information to *Science* for the article, believes this exposé illustrates a callous disregard for animal welfare—extending to many in research. In fact, according to *Science*,

“most authors of chinchilla papers and their institutions did not respond to *Science*’s queries about their suppliers.” Their silence suggests they’d prefer such questions were not raised.

NEWLY REVAMPED: AWI’S REFINEMENT DATABASE

AWI is pleased to announce the addition of new features to our online Refinement Database. These features make the database more searchable and improve its usability, making it easier to find current information on ways to improve conditions for specific animals and specific topics.

The Refinement Database curates scientific articles, books, and other publications, and is intended to provide the most up-to-date information on appropriate housing, husbandry, and care of research animals to improve or safeguard their welfare. Created in 2000, the database now contains more than 7,000 citations (with abstracts) and is updated every three months.

The new features allow users to filter their search by “animal type” and “topic,” in addition to using a keyword to search. The database covers a wide range of species—including common ones (e.g., macaques, mice, rats, zebrafish) and less common ones (e.g., cephalopod, salamander, trout, zebra finch)—that are housed in various contexts, such as laboratories, farms, and zoos. Topics covered include abnormal behaviors, analgesia, animal training, biological sampling, environmental enrichment, social housing, welfare assessment, and many more. The database also includes publications on the refinement of methods used in wildlife research.

The database is available at www.awionline.org/refinement.



USDA

CORONAVIRUS & PETS: *Saving Our Companion Animals*

by Caroline A. Griffin, Esq., AWI Board of Directors

We have borne witness to the devastating effects of COVID-19, which is wreaking havoc throughout the United States and across the globe. While our attention has been focused on protecting human health, companion animals have also fallen victim to the pandemic, as shelter and animal control services have been slashed. Moreover, shelters potentially face a catastrophic number of animal surrenders in the coming months, given the economic hardship on millions of people. Fortunately, we can take steps now to avert the euthanasia of healthy dogs and cats due to lack of space.

Municipal and other open admission shelters are bearing the brunt of the COVID-19 pandemic. Unlike private shelters that pick and choose the animals in their care—and can even close their doors during the pandemic—open admission shelters cannot turn animals away. In addition to accepting animals from the public, these shelters work with local animal control agencies to care for the many lost, stray, abandoned, neglected, and abused animals in our

communities. While abused animals will continue to be protected, many other services have been suspended.

The National Animal Care & Control Association (NACA) has issued a series of statements providing guidance during these unprecedented times, clarifying which services are “essential” and should be continued during the pandemic. These include responding to calls for injured or sick stray animals, cruelty and neglect complaints, and dangerous and aggressive dog complaints.

In an effort to contain the virus, NACA has recommended, however, that animal control officers suspend all non-emergency services, such as leash law and licensing complaints and barking and nuisance complaints. Moreover, because many shelters are operating as disaster/emergency response centers, NACA has also recommended that animal control officers discontinue non-emergency intake and even return pets to the field instead of impounding them. These cutbacks will impose significantly greater responsibility on members of the public to care for the stray and homeless animals in their communities.



Compounding the problem further, most animal shelters have shut down their spay/neuter clinics in response to a request from the surgeon general that all non-essential surgeries for humans and animals be suspended to contain the virus and preserve personal protective equipment. NACA and prominent veterinary shelter medicine programs across the country have endorsed this recommendation. As Dr. Julie Levy of Maddie's Shelter Medicine Program has noted, treatment should be limited to those conditions that are "life-threatening, rapidly deteriorating, may cause permanent dysfunction, or relieve suffering." Tragically, spay and neuter services for pets, shelter animals, or TNR (trap-neuter-return) are not considered essential services.

Many private veterinary clinics have similarly suspended routine spay/neuter surgeries in response to statewide executive orders, leaving community cat caretakers without any resources to spay and neuter free-roaming cats during the height of "kitten season," when shelters face their highest intake.

Though the situation is dire, there are many ways we can help. While shelters are in urgent need of financial support, nonmonetary assistance is equally important. Many people have fostered—and even adopted—animals while working at home, thereby alleviating the workload of shelters while they operate on skeletal staffs. Fostering also creates a critical cushion for shelters when intake spikes and provides physical and emotional benefits to foster families, particularly during a time of great uncertainty and isolation. Shelters have implemented creative social distancing protocols, utilizing technology such as Facetime, to introduce shelter animals to potential fosters. Individuals interested in fostering should contact their local shelter directly or visit www.stayhomeandfoster.org, a national initiative sponsored by GreaterGood, which pairs people with shelters and rescues in their area.



Finally, we can help stem the tide of future animal surrenders by donating food and supplies to those on the brink of losing their animals due to economic hardship. Many shelters maintain food pantries for the public and accept unopened food, cat litter, and supplies that are distributed to those in need (some shelters publish "wish lists" of items on their website). AWI is doing what we can to help (see below).

People who work and volunteer for animal organizations see the worst and best of humanity. The current crisis reminds us that we are not only connected to each other, but to every living being. Most of us feel overwhelmed and powerless by this pandemic, but we can each take steps to preserve the human-animal bond at a time when we need it most. It is within our power to save the lives of countless animals and we must act now before it is too late. 🐾

AWI SUPPORTERS STEP UP FOR ANIMAL SHELTERS

As detailed in the article above, animal shelters are facing extra hardships in their efforts to provide services during the COVID-19 pandemic. AWI is doing what we can to help in these unprecedented circumstances. We are providing emergency financial assistance to shelters and services across the country to ensure that they

can continue to provide food, medicine, and other essential supplies for the animals in their communities. We also called on our supporters for help. This year, on "Giving Tuesday Now"—a worldwide day of charity modeled after Giving Tuesday in November—AWI committed to donating 100 percent of funds raised to food

banks for companion animals in areas particularly hard hit by the virus and its economic impacts. People responded in a big way. Many thanks to these compassionate individuals, whose generous contributions are helping to feed companion animals in need.

COLORADO BANS WILDLIFE-KILLING CONTESTS

In a significant victory, Colorado has banned wildlife-killing contests. Such contests are cruel events in which participants kill animals for cash, prizes, and entertainment, often with awards given for the most number of animals killed and for the heaviest, smallest, or largest animals killed. Eighteen killing contests have been held in Colorado in the past five years.

The ban, one of the strongest in the country, prohibits killing contests that target furbearers such as coyote, bobcat, red fox, gray fox, and swift fox, as well as Wyoming ground squirrel, and white-tailed, black-tailed, and Gunnison's prairie dogs. It nullifies a regulation adopted in 1997 that allowed up to five animals of each species targeted in a contest to be killed by each participant.

Last November, AWI led a coalition of animal welfare and conservation organizations that submitted a petition to the Colorado Parks and Wildlife

Commission requesting a ban on killing contests for all furbearers and small game species. The issue was addressed at the January commission meeting, at which Colorado Parks and Wildlife was asked to draft a regulation that would ban killing contests. This proposal was presented at the April commission meeting and approved in an 8–3 vote. AWI supported this effort by testifying at the January commission meeting, giving a presentation at the April meeting, and submitting memos about killing contests in Colorado, other states' laws banning killing contests, and the rationale for those laws. AWI also submitted a coalition letter signed by 16 groups in support of a ban.

These contests are not only inhumane, they also undermine modern, science-based wildlife management. Indiscriminate mass killing of carnivores does not—as contest supporters frequently claim—reduce predator populations, increase populations of game animals, or prevent conflicts with people, pets, or livestock. Scientific studies have shown that many wildlife populations depleted by unnatural means

reproduce more quickly due to less competition for resources and changes to social structure. Furthermore, the indiscriminate killing of predators likely exacerbates risks to livestock because killing carnivores disrupts their social structure and foraging behavior in ways that increase the likelihood of livestock depredation.

Many state wildlife agencies have recognized that reducing predator numbers in this manner does not enhance game populations. Some also fear that killing contests could undermine public support for hunting in general because the concept of fair chase is frequently disregarded in these events, and the carcasses of the animals killed are usually wasted.

Colorado is the sixth state to outlaw killing contests, joining Arizona, California, Massachusetts, New Mexico, and Vermont. The Washington Fish and Wildlife Commission also recently voted to conduct an inquiry into banning killing contests, and legislation has been proposed to ban wildlife-killing contests in five other states (Maryland, New Hampshire, New Jersey, New York, and Oregon).

AWI is committed to ending these contests across the country and is a member of the steering committee of the National Coalition to End Wildlife Killing Contests. In addition to our efforts in Colorado, we have worked in support of bans in Arizona, Massachusetts, New Jersey, and New York. AWI will continue to encourage more states to join the movement to ban killing contests.

Thanks to a vote by the Colorado Parks and Wildlife Commission, savage killing contests targeting coyotes and other animals in the state are now a thing of the past.



MATT DIRKSEN



MENNO SCHAEFER

With human industry and activity on hold during the pandemic, black bears and other wild animals are venturing out in the open, and natural landscapes are rebounding.

HUMBOLDT COUNTY ADDS ANIMAL PROTECTIONS TO WILDLIFE MANAGEMENT CONTRACT

Responding to advocacy by a coalition of animal protection and conservation groups, including AWI, Humboldt County, California, approved a new contract with the federal wildlife-killing program, Wildlife Services, that adds vital protections for the county's native species. The new contract is the result of negotiations that began after the coalition notified the county in a letter that its existing contract violated the California Environmental Quality Act by allowing the use of lethal methods without considering their impacts on the environment.

The new contract requires Wildlife Services to implement numerous reforms to reduce wildlife suffering and death. The agency can no longer kill animals involved in conflicts with humans in urban or suburban areas until all feasible nonlethal measures have been implemented and given adequate time to work. The new contract also imposes reporting requirements and restricts cruel or ecologically harmful killing methods,

such as pesticides, lead ammunition, and body-gripping traps.

From 2008 to 2017, Humboldt County employed Wildlife Services to kill nearly 2,000 ecologically important native animals, including at least 178 coyotes, 54 black bears, 43 gray foxes, 23 mountain lions, 483 raccoons, 880 skunks, and 112 opossums.

Humboldt is the most recent California county the coalition called upon to reform its wildlife management program. Shasta, Siskiyou, Monterey, Sonoma, and Mendocino counties have all terminated, suspended, or considered the environmental effects of their contracts with Wildlife Services—either voluntarily or by court order—after the coalition and others took or threatened legal action.

AN ILL WIND MANAGES TO BLOW SOME GOOD

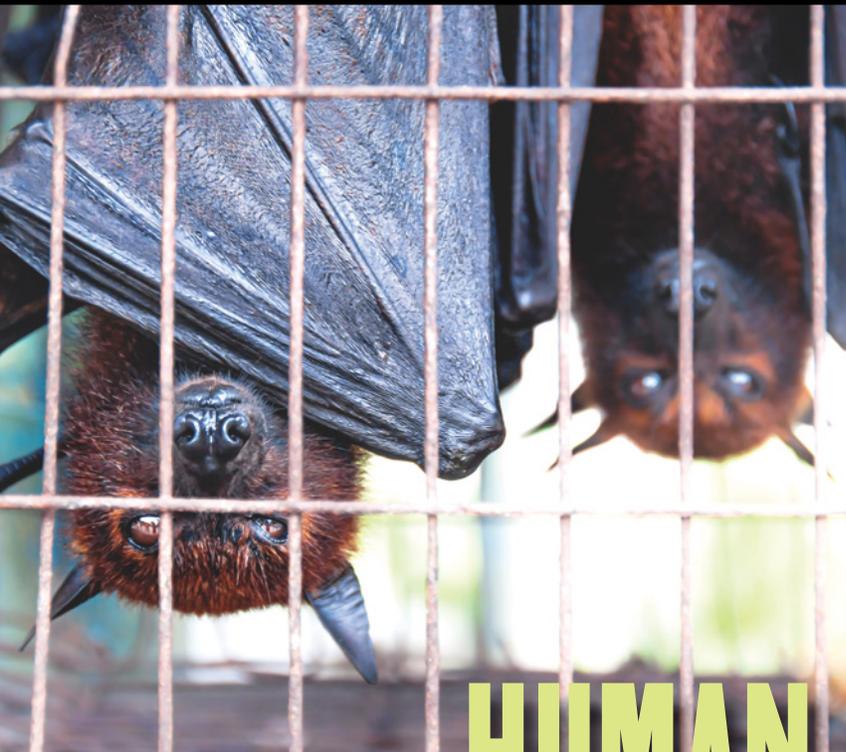
Most of the news we receive during the pandemic is extremely dire, and the heartbreak and disruption it has caused and will continue to cause cannot be glossed over. Even so, some wondrous things are happening in the

natural world that perhaps can provide some measure of cheer. As humans temporarily abandon field, forest, stream (and, in some cases, sidewalk), wildlife is moving in and habitats are bouncing back. Bears, coyotes, and other animals are roaming much more freely in Yosemite National Park. Usually elusive lions are napping on the road in Kruger National Park. Even in heavily populated Santiago, Chile, cougars have taken to the deserted streets.

In major cities, air pollution has dropped sharply, allowing citizens to breathe more easily and see views masked by smog for decades. The usual mowing and spraying of herbicides along roadways has not occurred in many areas, allowing a riot of wildflowers to bloom—presumably benefiting pollinators and songbirds by giving them more food sources as they migrate and reducing their exposure to toxins.

Even amid the severe hardships imposed on our education systems, teachers and organizations are stepping up to offer online curriculum focused on wildlife and habitats free of charge, with at least one lesson featuring famed conservationist Sir David Attenborough. Hopefully, more young people will be exposed to the wonders of the natural world and become advocates for animals as a result. And people are remembering or discovering for the first time how much solace they can find in nature—whether their own yard, a local park, or public lands.

Eventually, some version of “normal” will return. But all these observations should give us pause—and make us strongly consider just what we want our normal to include once that happens.



HUMAN CULPABILITY IN COVID-19 AND OTHER ZOOONOTIC DISEASES

A number of deadly pandemics, including COVID-19, have been triggered by trade in wild animals. Pictured clockwise from top left: rhesus macaque, Asian palm civets, grey parrot, fruit bats. Photos by Antonio_CSI, kapulya, We Animals, loeskieboom.

Being responsible and sheltering at home is one way to limit the spread of COVID-19. Changing our relationship with wildlife and farm animals, however, would help keep deadly zoonotic diseases out of the human population to begin with.

While much speculation exists about the origin of COVID-19, the near-total consensus among epidemiology experts is that it originated in a wild animal and infected humans at a live animal market in Wuhan, China. At such open-air markets, domestic and wild animals—live and dead—are sold for human consumption.

COVID-19 is a zoonotic disease, one that “jumps” or “spills over” from animals to humans. The original source was likely a bat—like other coronaviruses, COVID-19 exists naturally in bat populations, where it does not necessarily harm the host animal. However, before it jumped to humans, an intermediate host may have been involved—perhaps a pangolin, since they, as well as bats, were sold at the market and are known to play host to similar viruses. (The sale of bats at the market was legal, while the sale of pangolins was not. Widespread, illegal trade in pangolin meat and scales—used in traditional medicine—is rampant and is devastating pangolin populations.)

COVID-19 is but the latest in a long and accelerating history of such diseases. The Centers for Disease Control and Prevention (CDC) estimates that at least 70 percent of new and emerging infectious diseases are zoonotic. With our interconnected world, these zoonotic disease outbreaks spread rapidly and, with relative ease, become global pandemics. While COVID-19 almost certainly emerged from direct contact with wildlife, other zoonotic diseases are transferred to humans via domestic animals.

In just the past 40 years, the worst pandemics and epidemics—including SARS, Ebola, HIV/AIDS, the H5N1 avian flu, the H1N1 swine flu, and COVID-19—have all happened against a backdrop of increasing trade and consumption of wildlife and destruction of wild habitat and an increasing number of farm animals warehoused in concentrated animal feeding operations (CAFOs). So, while the origins are sometimes shrouded in mystery and subject to scientific sleuthing, the answer as to which species is responsible for the COVID-19 pandemic—as well as other disease outbreaks—is clear: It’s us.

WILDLIFE TRADE

The ever-growing global wildlife trade is bringing people and animals into close and prolonged contact in ways that enable diseases for which we have no immunity to spill over to humans. Live wild animals are traded domestically and internationally as pets, food, and for use in laboratories and zoos, while dead wild animals and their parts are traded as food, traditional medicine ingredients, trinkets, trophies, and clothing. A sobering 18 percent of the planet’s known terrestrial vertebrate wildlife—over 5,500 species—are already part of the wildlife trade, with several thousand additional species predicted to enter the trade in the years to come. As more and more species become part of this trade, the likelihood of pathogen transmission will continue to rise.

The United States is one of the top importers of such wildlife, having grown into the second largest market for wildlife trade in the world. A significant proportion of this multibillion-dollar industry is legal and largely unregulated. For example, tens of thousands of monkeys are imported for use in medical research and tens of thousands of birds and small animals, including African grey parrots, sugar gliders, and slow lorises, are imported for the pet trade. Permits may be required, but they are cheap and rarely denied. The regulations that do exist are often limited in scope and inadequately enforced. Animals in trade—even legal trade—are often transported under abysmal conditions. It is also very difficult to ensure that animals allowed in under the assertion that they were bred in captivity were not in fact caught in the wild.

The societal ramifications of wildlife trafficking are severe. According to the United Nations, “Wildlife trade is a big business, run by international criminal networks, trafficking wildlife and animal parts much like illegal drugs and arms.” The Al-Shabab terrorist group, to cite just one example, is partially funded by ivory poaching. UN Environment Programme Executive Director Achim Steiner warns, “The victims of wildlife crime are not only the animals and ecosystems that are devastated by poaching and trafficking, they are people as well. The human cost of poaching and illegal trade in wildlife is measured in lives lost to the criminal networks involved and livelihoods destroyed by the erosion of a natural economic foundation.”

Moreover, legal and illegal wildlife trade are often inextricably linked, with legal trade used as a cover for trafficked animals

and parts. And while stricter enforcement of domestic laws and international treaties could help, these laws and agreements are not focused on preventing zoonotic disease transmission and are therefore insufficient for preventing the next pandemic. Discussions are underway, therefore, on ways to revise national and international law to address zoonotic disease risks. Two areas of focus are live animal markets and the trade in wildlife itself. In April, a bipartisan group of US lawmakers called on the World Health Organization, the World Organisation for Animal Health, and the Food and Agriculture Organization of the United Nations to achieve “a global shut down of live wildlife markets and a ban on the international trade of live wildlife that is not intended for conservation purposes.”

Meanwhile, habitat destruction around the world is accelerating, resulting in staggering declines in the abundance and diversity of wildlife, with over 1 million species facing extinction worldwide in the coming decades. When wild animals’ habitat is destroyed or degraded, the likelihood and frequency of humans coming into contact with those animals increases, as does the corresponding risk of pathogen transmission. Incidents of emerging zoonotic diseases have increased significantly since 1940, a trend that strongly correlates with accelerating habitat destruction.

ANIMAL AGRICULTURE

We also catch zoonotic diseases from farm animals. This kind of transmission often occurs when a wildlife reservoir for a disease transmits an infective agent to a farm animal, which is then transmitted to humans. In addition to the human toll, this kind of transmission often leads to “depopulating” (killing, but not for consumption) of large numbers of farm animals suspected of carrying the virus, even when no diagnosis is confirmed.

One example, avian influenza, is a viral infection originating in aquatic birds. While such viruses are particularly adapted to birds, they can be transmitted to humans who interact with infected birds. Once in humans, person-to-person transmission is possible. Highly pathogenic avian influenza strains can move through domestic bird populations rapidly due to the close, unhygienic conditions in which these animals are usually raised. Such strains are typically fatal to domestic poultry, and depopulation of infected flocks is extremely common globally to protect uninfected flocks. From December 2014 to June 2015, for example, nearly 50 million chickens and turkeys in the United States were killed after being exposed or potentially exposed to avian influenza.



The 1918–1919 influenza pandemic that infected one-third of the world’s population and killed at least 50 million people was caused by an H1N1 virus with genes of avian origin. (The “H1” and “N1” refer to particular proteins that inhabit the outer shell of the virus.) In April 2009, a novel H1N1 swine flu strain, likely emerging from pigs in central Mexico, caused another global pandemic. Though it was less deadly than the 1918–1919 H1N1 virus, the CDC estimates that in the United States alone, 60.8 million individuals became infected in the year after the swine flu emerged, and over 12,000 of those people died. While it is unclear how many pigs may have been depopulated to prevent the spread of this virus, Indonesia ordered that 9 million pigs be inspected for the illness, and Egypt ordered the slaughter of all 300,000 pigs within the state where an outbreak occurred.

The Nipah virus, first identified in 1998 in Malaysia, can spread to humans from bats and pigs, food sources, and human-to-human contact. As of May 2018, about 700 human cases of Nipah virus had been reported, and 50 to 75 percent of these cases were fatal. A second outbreak in Kerala, India, occurred in May 2018, resulting in 17 human deaths. Millions of pigs were depopulated in Malaysia in response to the first outbreak to curb the spread of the disease.

Current agricultural production practices greatly increase the risk of zoonotic disease transmission. In today’s industrial systems, the vast majority of farm animals are raised in CAFOs—factory farms where they are often confined by the thousands in crowded, unsanitary environments that facilitate the rapid transmission of virulent pathogens and infectious diseases from host to host. Farm animals in these environments may also experience high levels of stress from overcrowding and the inability to perform natural behaviors, which can weaken their immune systems and increase susceptibility to infection.

The limited genetic diversity among farm animals—a result of decades of selective breeding to maximize productivity and efficiency—further contributes to the spread of disease in large-scale animal agriculture operations. A number of studies suggest that lack of genetic variation allows for pathogens to rapidly adapt to the host population and hinders the animals' ability to develop resistance to the pathogen.

And live animal markets are not only found “elsewhere.” At live animal markets across the United States, birds are held and slaughtered on-site, and pigs, cows, sheep, goats, domestic rabbits, and various species of wildlife, are confined in close proximity, further increasing the risk of disease transmission and outbreaks. To date, the United States has not taken steps to close down its live animal markets.

The routine administration of antimicrobials to farm animals—another byproduct of industrial farming—is also extremely troubling. In this case, though, it does not directly increase the risk of viral disease transmission, but rather hinders our ability to fight life-threatening bacterial infections. Although some antimicrobials are used in animal agriculture to treat disease and illnesses (some of which can be attributed to poor management practices and extreme confinement), the most controversial use of antibiotics in farm animals has been to promote growth and increase the efficiency with which animals convert feed to flesh. In recent years, the use of medically important antibiotics for growth promotion in animals has been outlawed in dozens of countries worldwide, and it has been prohibited in the United

States since 2017. However, antibiotics may still be used in the United States for “disease prevention” in animals. (See *AWI Quarterly*, summer 2019). When provided in this manner for prolonged periods at low doses, such antibiotics help build bacteria's resistance to them, and these antibiotic-resistant bacteria can be passed to humans, with devastating effects. According to the World Health Organization, antibiotic resistance is one of the biggest global threats to human health, food security, and economic development.

CONCLUSION

If we are to reduce the risk of future catastrophic zoonotic disease outbreaks, it is imperative that we recognize how our relationships with animals—particularly livestock and wild animals subject to trade—are exacerbating these risks and that we take immediate action to mitigate such risks. This includes curtailing wildlife trade and closing live animal markets in order to reduce the risk of disease transmission between animals and humans. While reining in wildlife trade will significantly aid in reducing the risk of future zoonotic disease in humans, we must also protect wildlife habitat to reduce direct contact with wild animals not tied to trade. And we must improve conditions for farm animals by transitioning to systems that promote human safety and the health and welfare of the animals, rather than prioritizing assembly line efficiency and productivity.

Humanity has the capacity to prevent the next pandemic—we need only to exercise the will to do so, for the benefit of animals and people alike. 🐾



TIGER KING: Series Shocks but Skates Past Animal Suffering



A tiger removed from a tiny apartment in New York City by first responders after he bit his owner. Lions running down the highway after 38 big cats were released in a residential area of Zanesville, Ohio. A teenager killed in Kansas as she posed with a tiger for senior portraits. There is no shortage of drama and tragedy resulting from the exploitation of big cats in the United States.

The Netflix docuseries *Tiger King: Murder, Mayhem and Madness* fails to tell any of these stories, however. It explores the bizarre and unscrupulous dealings of big cat breeders and exhibitors in the United States, yet devotes only a few moments to the actual suffering of the lions, tigers, and other cats they cage, sell, and kill. Thousands of big cats are in captivity in America, largely because of operations like the Oklahoma animal park, formerly operated by Joe Exotic, featured in the series. These poorly regulated facilities, which profit from tiger petting and photo ops, fuel a rampant and vicious cycle of breeding and dumping cubs.

Cubs at these facilities are often forcibly separated from mother cats immediately after birth. Federal guidance says they can be exposed to

public contact beginning at 4 weeks old. At about 12 weeks, they become too big and dangerous for petting operations and are funneled into the exotic pet trade, sold to another disreputable exhibitor, or killed—some to supply the black market trade for wildlife parts.

The lives of some are particularly miserable due to genetic abnormalities. White tigers, for example, are prized by exhibitors for their unique appearance. Their coloring, however, is the result of inbreeding for a recessive gene that also causes severe health issues such as cataracts, sensitivity to light, heart defects, skull defects, and crippling hip dysplasia.

The full-grown big cats who end up as pets are locked away in backyard cages or basements—their presence (often undisclosed to neighbors) in residential areas a serious threat to public safety. Since 1990, there have been nearly 380 dangerous incidents, including human injuries, maulings, and deaths, involving captive big cats in 46 states and the District of Columbia. In defusing such incidents, first responders put their own lives on the line. Often—as with the 38 cats in Zanesville—the animals die.

Tiger King, however, ignores all this in order to train its lens on human salaciousness and skullduggery. The series also does a disservice to organizations working to rescue and provide lifetime care to big cats, conflating roadside zoos like those run by Joe Exotic and Doc Antle with sanctuaries that never breed, buy, or sell animals. True sanctuaries prioritize the animals' needs over profitability and public entertainment. They house big cats in large, enriched enclosures that encourage natural behaviors. In fact, the constant breeding of big cats has placed an enormous burden on these sanctuaries, which cannot keep up with the number of animals in need of rescue.

The only solution to this problem is to prohibit private ownership of big cats and physical contact between cubs and the public. AWI is working to pass the Big Cat Public Safety Act (HR 1380/S 2561), a federal bill that would accomplish this. You can help. Please visit www.awionline.org/BCPSA to urge your members of Congress to cosponsor this legislation. 🐾

Captive Animals at Shuttered Marine Attractions Left in Limbo

Accredited zoos, aquariums, marine theme parks, and swim-with-dolphin operations—places that naturally concentrate large groups of people—were among the first tourism venues to close their doors in response to the COVID-19 pandemic. By May, over 90 percent of facilities belonging to the World Association of Zoos and Aquariums had been closed to the public.

The future of publicly traded theme parks generally is uncertain; SeaWorld—the largest marine theme park in the United States—saw its stock tumble after the documentary *Blackfish* was released. As the company ended its orca breeding program and shifted its emphasis to rides, the stock largely recovered. Now, however, SeaWorld stock has declined to its lowest level ever. On March 30, the company announced it would furlough 90 percent of its staff. This left only a small number of people across multiple parks to care for more than 23,000 animals, from invertebrates to the famous orcas. (Two of the parks were planning to reopen mid-June; the California park has not yet indicated a reopen date.)

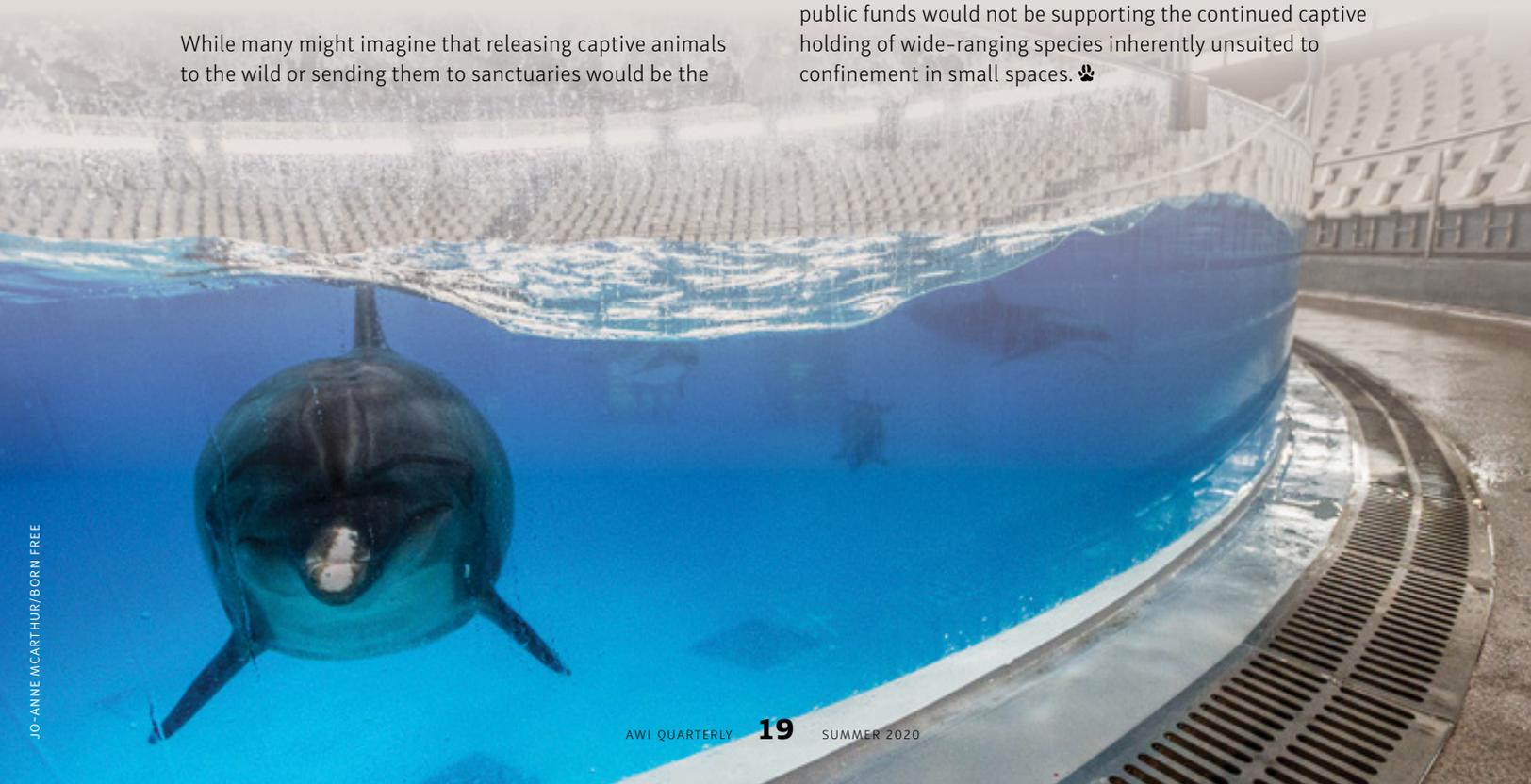
With countless human lives at stake, physical distancing rules may need to be maintained, at least to a partial degree, for the foreseeable future. This is tourism's high season in the northern hemisphere. Under these circumstances, the distressing reality is that some (perhaps many) facilities will cull their animals. It will simply become untenable economically to continue to feed them if the facilities are generating no or reduced revenue. Even species with individual (and significant) economic value, like performing whales and dolphins, could face this outcome, as they are also very expensive to keep.

While many might imagine that releasing captive animals to the wild or sending them to sanctuaries would be the

obvious alternative, the unfortunate truth is that most animals in zoos or aquariums are now utterly dependent on humans feeding them, and there aren't enough sanctuaries to take them all. And sanctuaries are also facing economic hardships during this time. The cold fact is that these animals have nowhere to go, and putting wildlife at the direct mercy of the dollar is a recipe for disaster whenever the economy is disrupted, for whatever reason. Does the entertainment and recreational value of such facilities really justify this fate?

On the other hand, free-ranging whales and dolphins may benefit—though perhaps only temporarily—if the pandemic results in a severe curtailing of the live wildlife trade. Marine mammals are also potential sources of novel pathogens that can jump to humans, and it would be wise for society to protect itself—and the animals—by ending capture and handling of belugas, bottlenose dolphins, and orcas, all of which are still often taken directly from the wild for display in several countries. Certainly for now, the whales in Russia who were destined for oceanariums in China are safe from the catchers' nets.

International and regional zoo associations are considering, or advising their members about, approaching governments for pandemic relief funds. AWI urges any authorities reviewing bailout proposals for facilities with marine mammal exhibits to consider putting conditions on funding, such as public transparency on management decisions (including those involving culling) and a ban on breeding of cetaceans. Ideally such a ban would be permanent, as then public funds would not be supporting the continued captive holding of wide-ranging species inherently unsuited to confinement in small spaces. 🐾



STUDY SHOWS HUMAN IMPACTS ON DISEASE TRANSMISSION IN THE OCEAN

Recent studies have linked anthropogenic stressors to disease occurrence in marine species. In a 2019 study published in *Proceedings of the Royal Society B*, Allison Tracy and others examined relevant studies published between 1970 and 2013 in order to analyze disease outbreaks within nine marine taxonomic groups, from sea grasses to marine mammals. They found evidence of a significant increase in disease reports for coral and urchins but a significant decrease in disease reports for bony fish and elasmobranchs (cartilaginous fish such as sharks, rays, and skates).

Evidence of increased disease outbreaks in corals and urchins were linked to warming oceans due to climate change. The decrease in disease reports for fish may be because overfishing has reduced population numbers and densities, and this in turn could limit disease transmission opportunities. The study authors caution, however, that even though a decrease in fish diseases may at first glance seem beneficial, the loss of parasites could alter food webs and ecosystem function in unknown ways.

The study is further evidence that human impacts on the environment have far-reaching consequences for all animals, their habitats, and ecosystem functioning.

OKHOTSK ORCAS GAIN PROTECTIONS

In summer 2018, 101 whales—90 belugas and 11 orcas—were captured in a single operation in the Okhotsk Sea and held in a sea pen complex near Vladivostok, in Russia's Far East. All of them were young and were to be sold

to marine theme parks in China and Russia. This facility became known as the “whale jail,” and drone footage of the whales languishing in tiny pens went viral on international social media. A global outcry ensued, and AWI helped organize and draft two letters from international scientists urging Russian authorities to end these captures and work to release the orcas back to their families (see *AWI Quarterly*, summer 2019).

In the end, the Russian government prohibited the sale of the captured whales and ordered their release. Several Russian environmental groups and their international allies (including AWI) continued to pressure the government to protect the whales of this region, especially the orcas, which probably number fewer than 240 in the area where the captures have occurred. In the past eight years, as many as 40 members of this mammal-eating orca population have been captured and sold to facilities in Russia and China, killed during capture, or captured and released to an unknown fate—this constitutes more than 16 percent of the population in a very short period, a horrifically unsustainable number.

In March 2020, the Russian government announced it would list 14 mammals on its endangered species list, also known as the Red Book, the first new listings made in over 20 years. Two of those were marine mammals—the Caspian seal and all mammal-eating orcas in Russian waters. This includes those in the Okhotsk Sea, meaning these intelligent predators are now safe from being permanently separated from their families and sold for commercial purposes.

This achievement would not have been possible without the passionate calls for protection from animal lovers around the world. The Russian government listened to those voices. Now we must do the same for fish-eating orcas (found in more remote areas in Russian waters) and the belugas in the Okhotsk Sea.

Orcas in the Sea of Okhotsk are among the animals newly listed in Russia's “Red Book” of endangered species. Such a listing will at long last protect them from capture and sale to entertainment facilities.



SERGEY URADNIKOV

Newborn leatherback turtles head for the sea. During this year's nesting season, mother turtles have made full use of the largely empty sands.

SEA TURTLES THRIVING ON UNOCCUPIED BEACHES

The nesting season of sea turtles has begun in the Northern Hemisphere. During this time, mother turtles digging nests in the sand are often disturbed by human beachgoers. Newborn hatchlings face similar disturbance when returning to the sea. However, this year has seen elevated numbers of nests as COVID-19 restrictions have kept people away from beaches.

In Florida, where the nesting season runs from March through October, researchers have documented more nests at sites such as Juno Beach, a few miles north of West Palm Beach. According to the Loggerhead Marinelifelife Center, as of May 8 there were 728 turtle nests, with 591 of them loggerhead nests and the remaining 137 from the more vulnerable leatherbacks. Other southern states, such as Georgia and Texas, have also experienced a boom in sea turtle nesting this year.

Nesting sites in Brazil, Thailand, and India have seen similar results. In Brazil, around 100 hatchlings of the critically endangered hawksbill sea turtle were discovered in a single day in late March. Thailand has reported the highest number of leatherback nests in nearly two decades.

Human activities have long been an obstacle for sea turtles' breeding and survival. Turtles mating in shallow near-shore waters are killed and injured by boats, while human activity on beaches makes it difficult for turtles to find good nesting locations. Artificial



VICBRUNO

light disorients baby turtles as they attempt to make their way to the sea.

This year's early nesting numbers are promising, but it is still too early to determine the true impact of the temporary human hiatus on sea turtles. As more and more jurisdictions lift the stay-at-home orders and beaches are reopened, sea turtles yet to hatch may face the usual disturbances as they head for the sea.

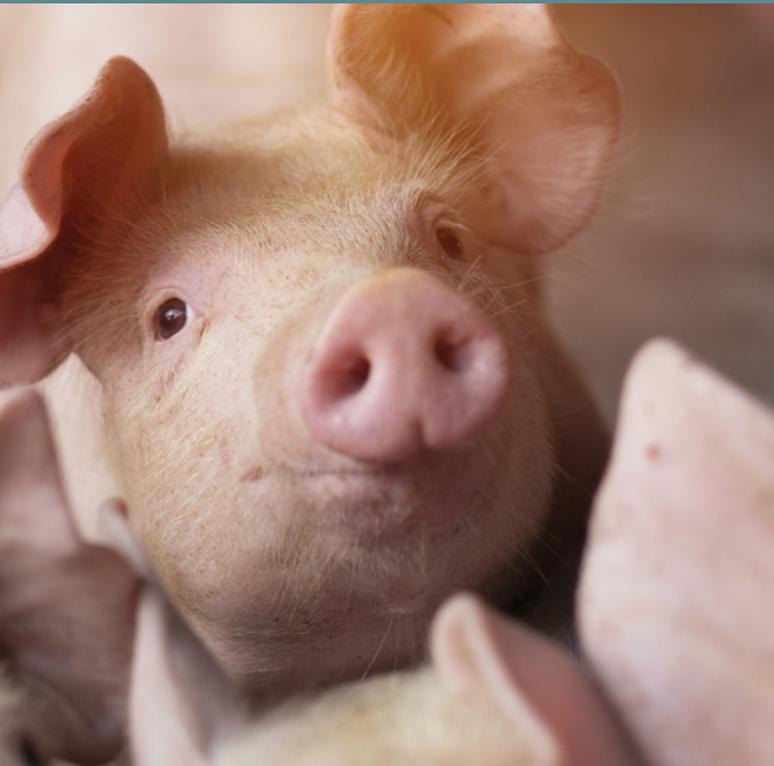
AS SEA TRAFFIC STALLS, OCEANS GROW QUIETER

Ships carry over 90 percent of the world's trade. Recent research conducted off the coast of British Columbia has found that reduced ship traffic due to COVID-19 shutdowns has led to a reduction in ocean noise and a resulting break for marine animals. Between January and April, a hydrophone station west of Vancouver Island (and near a major shipping route for container traffic) recorded a 16 percent decrease in noise power—or 1.5 decibels—compared to the same period of the year before. The pandemic has also cut down the use of explosives,

seismic airguns, and military active sonar, further reducing noise levels.

Ship noise can have a severe impact on marine animals. Vocal mammals, including cetaceans, call in the low-frequency sound range, which overlaps with that of ship noise. This overlap can inhibit their communication, feeding, and threat avoidance. When noise levels are reduced, researchers expect animals to call more frequently and for their calls to be more complicated. Other marine animals, including fish and shrimp, can also be impacted by anthropogenic noise, with damage ranging from disturbance to hearing loss resulting in impacts in performance of their natural behaviors.

It is the first time since another human tragedy—the 9-11 terrorist attacks—that worldwide movement has drastically slowed down. Researchers around the world are seizing this rare opportunity to collect data and listen to the oceans. Such data will help us better understand the usual impacts of anthropogenic noise on the oceans, and perhaps spur efforts to dampen that impact in the future.



KRUWANOP

AWI Releases Latest Update on Humane Slaughter Enforcement

In early 2008, a slaughterhouse investigation revealed multiple incidents of egregious cruelty to cattle at the Westland–Hallmark Meat Packing Co. in Chino, California, resulting in widespread public outrage and the largest beef recall in US history. Congress held multiple oversight hearings in the aftermath, and the US Department of Agriculture took several actions to step up its enforcement of the humane slaughter law.

A 2010 report by AWI found that the enforcement of the federal Humane Methods of Slaughter Act at both federal and state livestock slaughter establishments increased dramatically following the Westland–Hallmark investigation. AWI conducts surveys of humane slaughter enforcement every two to three years, and subsequent surveys have shown that this increased level of enforcement continued into the next decade. Major

findings of our most recent research, which covers the period 2016–2018, include the following:

Federal humane slaughter enforcement remains relatively stable, **while state enforcement continues to rise, particularly in terms of the number of plants temporarily suspended for egregious violations of the humane slaughter law.** In addition, the number of citations (noncompliance records) for less serious offenses continues to increase under state enforcement.

Although state enforcement is up overall, the level of enforcement varies dramatically by state. For example, nearly half of the states operating meat inspection programs have issued no plant suspensions for humane slaughter violations since at least 2002, the year AWI began monitoring state enforcement. Moreover, one state—Louisiana—provided no evidence that it has even issued any citations for humane slaughter violations since at least 2002.

Inadequate stunning was the most frequently cited type of humane handling violation at both state and federal plants.

Stunning is the process in which animals are rendered insensible to pain before they are shackled, hoisted on the slaughter line, and/or cut. The percentage of violations for ineffective stunning has increased dramatically over the past decade, as the USDA and state departments of agriculture placed greater emphasis on monitoring the stunning phase of slaughter (see figure next page).

Repeat federal and state violators present a significant enforcement problem. However, in this review, AWI observed fewer examples of repeat violators than in past surveys. Although the USDA has declined to pursue criminal prosecution for humane slaughter violations, it is taking stronger administrative actions, including filing for permanent withdrawal of inspection and entering into consent orders with some repeat violators.

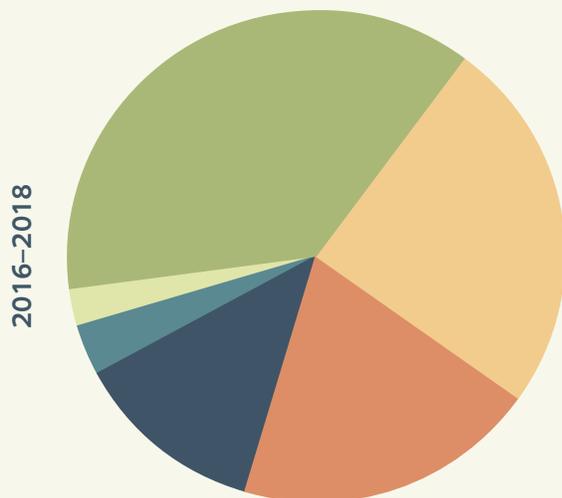
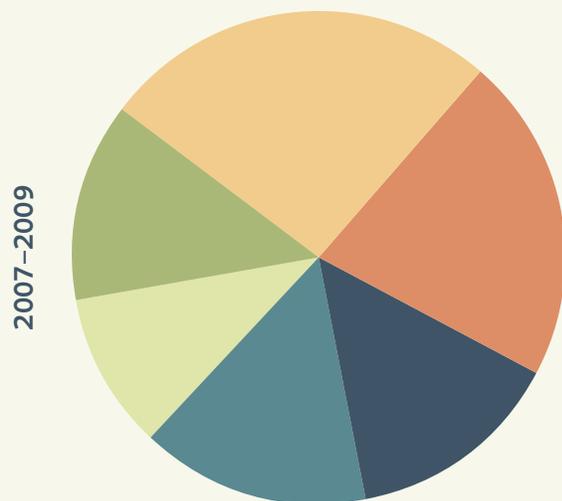
Federal and state inspection personnel continue to demonstrate unfamiliarity with humane slaughter enforcement by their failure to take appropriate enforcement actions. In particular, state personnel continue to be less likely than federal personnel to suspend a plant for egregious humane slaughter violations.

While humane slaughter enforcement is up at both the federal and state levels, it remains low in comparison with other aspects of food safety enforcement. Resources devoted to humane handling at the federal level continue to constitute less than 3 percent of total funding for food safety inspection.

Types of Violations Cited at Federal Plants* (comparing 2007–2009 with 2016–2018)

* Figure 9 on p. 8 of report.

- Ineffective stunning
- Failure to provide water and/or feed
- Pens, grounds, or equipment in disrepair
- Improper handling/use of excessive force
- Conscious animal shackled, hoisted, or cut
- Improper handling of disabled animals



Based on our review of humane slaughter enforcement records, AWI is offering the following recommendations to federal and state meat inspection programs:

1. The allocation of federal and state resources to humane handling oversight efforts should be significantly increased.
2. The USDA should continually analyze federal and state enforcement activities to ensure more consistent application of the humane slaughter law in plants of all sizes and locations across the country.
3. To address repeat violators and discourage future offenses, the USDA should establish escalating penalties for repeat violators, including longer suspension periods and more frequent withdrawal of inspection for repeated violations.
4. Federal and state agencies should cooperate in the pursuit of criminal animal cruelty charges for incidents of willful animal abuse.
5. The USDA should make more enforcement records available to the public on its website to help educate the public regarding slaughter practices and encourage compliance by slaughter plants with humane slaughter requirements.
6. The USDA should revise the federal humane slaughter regulations to address the most common causes of violations.

Humane Slaughter Update: Federal and State Oversight of the Welfare of Farm Animals at Slaughter is available as a free PDF download at www.awionline.org/humane-slaughter-update. 🐾

Note: AWI conducts its humane slaughter enforcement surveys by submitting public records requests to the USDA and state departments of agriculture. While states respond in a relatively expeditious manner to public records requests, we must wait months, if not years, for the USDA to respond. This delay seriously limits the usefulness of the information contained in the records and negatively affects AWI's advocacy efforts, including the publication of this report. Consequently, in 2018, AWI and Farm Sanctuary sued the USDA for its failure to comply with a provision in the Freedom of Information Act that requires proactive disclosure of records subject to repeated requests. The lawsuit is pending.

RESEARCH FOUNDATION AIMS TO IMPROVE THE LIVES OF FARM ANIMALS

AWI is pleased to learn the US Department of Agriculture's Agricultural Research Service (ARS) was recently awarded a \$150,000 grant through the Foundation for Food and Agriculture Research (FFAR) to study the impacts of environmental enrichment on pig welfare. Half of the grant was provided by FFAR and the remaining funds were matched by Nestlé and Tyson Foods. One of the goals of this study is to determine how environmental enrichment strategies currently required by law in some European countries can be applied to US pig operations. This research is critical to efforts to improve the welfare of pigs confined by the thousands in highly stressful, barren environments. With no ability to exhibit natural behaviors, pigs often take out their frustration through aggressive behaviors, such as tail biting and ear chewing.

This study is one of several recent farm animal welfare research projects funded by FFAR, which was first

established by Congress in the 2014 Farm Bill. The goal of FFAR is to support food and agriculture research through public-private partnerships and the administration of federal grants that are matched with private funding. Research projects must fall under one of FFAR's six "challenge areas," including one that is focused on advanced animal systems. According to the foundation's website, the "Advanced Animal Systems Challenge Area improves animal production through innovations in animal health, welfare and productivity, antibiotic stewardship and environmentally sound production practices."

In addition to the aforementioned environmental enrichment study, FFAR has created and funded other initiatives focused on the Advanced Animal Systems Challenge Area. Under the SMART Broiler Research Initiative, six applicants were recently awarded grants for the development of automated technology that can assess animal welfare indicators in broiler chickens. The Egg-Tech Prize program was launched in 2019 to encourage development of new technologies

that can identify the sex of chicks during the early stage of incubation. This technology will help avoid the mass culling of male chicks, a practice common in the egg industry. In 2017, funding opportunities were provided under the Accelerating Advances in Animal Welfare program for research on improving the welfare of hens in cage-free housing and developing alternatives to castration of pigs.

KENTUCKY TO ALLOW VETS TO REPORT ANIMAL ABUSE

In April, Kentucky Governor Andy Beshear signed into law SB 21, now allowing veterinarians to report incidents of animal abuse and mistreatment, including those involving farm animals covered under the state's on-farm livestock and poultry care standards.

Prior to enactment of SB 21, veterinarians were barred from reporting animal abuse and mistreatment under the guise of confidentiality—even though veterinarians may be the only individuals, other than animal owners, who come in contact with the animals to assess their well-being and ensure they are receiving proper care and treatment. Additionally, a recent survey conducted by AWI revealed that in the six years since the Kentucky Board of Agriculture established farm animal care standards, the state has not investigated any reports of violations, likely because no reports were received. With the enactment of SB 21, veterinarians now have the opportunity to help ensure the care standards are enforced by reporting incidents of farm animal mistreatment.



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Pandemic Presents Extra Challenges for Farm Animal Welfare

Major natural disasters and public health emergencies, such as the COVID-19 pandemic, have the potential to impact farm animal welfare in many ways. For example, illness among farm workers can significantly compromise a farm's ability to provide animal care. Moreover, veterinarians may be making fewer calls to diagnose, treat, and in some cases euthanize sick or injured animals on the farm.

Another consequence of major emergencies is less oversight of the treatment of farm animals. During the COVID-19 shutdown, quality assurance and third-party food certification programs have postponed or cancelled many of their on-farm animal care audits. It is also likely that official investigations of animal neglect and cruelty complaints have been delayed.

Consumer behavior also affects farm animal welfare. Concern about supply disruptions has led to panic buying of certain staples, including meat and eggs. Some consumers are attempting to start from scratch: Feed stores have reported selling out of baby chicks. Many such purchasers will no doubt lack the knowledge or facilities to provide proper care.

Intensively raised farm animals must be provided a consistent supply of feed, which depends on the availability of truck drivers. And even before the pandemic, the United States was experiencing a serious shortage of livestock haulers. Illness among drivers can result in delays in animals reaching their destination, or truckloads of animals being abandoned during transport.

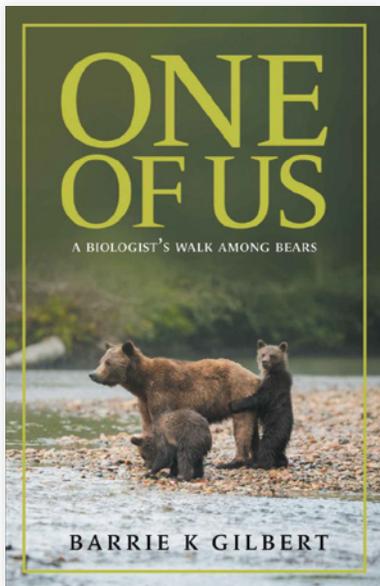
At the slaughterhouse, illness among government inspectors may reduce oversight of the federal humane slaughter regulations, potentially leading to an increase in animal cruelty incidents. Meanwhile, worker walkouts to protest lack of safety equipment and/or disease outbreaks

affecting thousands have resulted in the shuttering of a number of major slaughter establishments. Under these circumstances, animals may be held for extended periods on plant premises without proper care or subjected to additional transport—either back to the farm or to another slaughterhouse.

Early in the COVID-19 outbreak, some pigs never made it to market and were killed and disposed of on the farm, but the killing method used may have been less humane than at the slaughterhouse. When slaughter capacity is reduced, breeding animals at the end of their productive lives (dairy and beef cows, bulls, and sows) must be held on the farm longer, putting additional stress on already depleted animal care resources and extending the suffering of these animals whose health is often compromised by lameness or other disease conditions.

One US poultry company “depopulated” 2 million healthy chickens because a shortage of slaughterhouse workers due to illness left it unable to conduct slaughter and processing operations. The killing method was not disclosed. Delaying slaughter would have raised other issues—meat chickens grow at a very rapid rate and, at market weight, are prone to skeletal and heart problems. For this reason, the birds would have experienced pain and distress if they had been allowed to live longer and grow even bigger, with presumably less attention to their care.

Farm animals often suffer immensely during national disasters. While disaster preparedness efforts would no doubt mitigate some of the negative consequences of emergencies, as long as massive numbers of farm animals are raised under intensive systems that rely on complex resource chains that are subject to breakdowns during disasters, farm animal suffering is probably inevitable. 🐾



ONE OF US

Barrie K. Gilbert / FriesenPress / 264 pages

When I began my faculty position at Utah State University, one of my new colleagues was behavioral ecologist Barrie Gilbert. Because we shared an interest in how humans and wildlife interact with each other, we networked on a regular basis for the next two decades. Practically everything I know about these bears comes from Barrie and his students.

In 1977, Barrie experienced the quintessential nightmare for a bear biologist. He surprised a female grizzly bear and was attacked while conducting some of his first work with bears in Yellowstone National Park. He survived grievous injuries to his upper body, particularly the left side of his face. After recovery, he not only resumed his work with bears, but also became a fierce champion of grizzlies. *One of Us: A Biologist's Walk Among Bears* reviews his many experiences working with grizzly bears, and discusses the politics of grizzly bear management.

While societal attitudes toward great white sharks, gray wolves, and killer whales have changed in recent years,

the author argues that grizzlies “still carry the stigma of timeworn folklore: an unpredictable rogue, always ready to charge and dismember a person.” In 1983, Barrie got the opportunity to study bears in Katmai National Park in Alaska, the beginning of a multi-year project. There, the densest population of bears in North America commingle with human visitors and salmon. While a very real element of danger exists, these bears don’t seem to treat humans as a threat. Too many visitors, lodges built in the wrong place, or a reduction in salmon populations, however, mean bears can’t get to the food they need, and both individual bears and populations suffer.

And then there is the ethical issue of how bear research is conducted. Barrie recognized that bears who had not been trapped, collared, or shot at behaved differently from those who had. Bears evolved as behaviorally complex animals, and their behavior derives from their experiences. Painful experiences, remembered, affect how they behave around people. “Let the wild ones keep their wildness,” Barrie writes, arguing that invasive bear research needs to be replaced with non-intrusive techniques, such as trail cameras, DNA from hair traps, and direct observations.

Barrie's career revolved around a "bear first" ethos. Throughout, he remained outspoken in his concern about the impact of hunting and invasive bear research on bear behavior. He clashed with politicians championing tourism over bears, and his research funding suffered from this decision. Nevertheless, Barrie remained dedicated to protected landscapes with thriving grizzly bear populations. *One of Us* details his unique journey.

—Robert Schmidt, PhD, AWI Scientific Committee

NIGHT ON EARTH

2020 / Netflix / Plimsoll Productions / Six episodes

Night on Earth reveals the startling activity of the natural world hiding behind the dark curtain of night. From the producer of *Plant Earth II*, this six-part Netflix series follows nocturnal animals using sophisticated, low-light camera technology as they mate, stalk their prey, and seek refuge in cities, deserts, oceans, and jungles.

The show's script, delivered by Emmy-winning actress Samira Wiley, can be distracting and melodramatic at times. Nevertheless, *Night on Earth* offers a rare perspective for a nature documentary. Scorpions engaged in foreplay glow eerily under ultraviolet light as if trapped in a film negative. A grasshopper mouse, immune to the arachnid's venom, intrudes. He withstands sting after sting before chomping down and emitting a high-pitched territorial howl.

One episode focuses on animals who have adapted to nightlife in the city. On Halloween, moose in Anchorage, Alaska, gorge on jack-o'-lanterns. Elephants wait patiently until dark before quietly trudging across streets and train tracks in southern Africa to reach vegetation on the other side of the town that has emerged in the elephants' age-old path. A leopard pounces on a dog in a building lobby in Mumbai, India.

The conservation message in *Night on Earth* is less overt than in other documentaries of its kind. But the series does aim to instill a greater appreciation of the vibrant animal world that rises to life when darkness falls.

SEVEN WORLDS, ONE PLANET

2019 / BBC Studios / Seven episodes

Seven Worlds, One Planet is a BBC docu-series that wonderfully brings the natural world of seven continents to viewers with beautiful cinematography and narration by

the incomparable Sir David Attenborough. Each episode is devoted to one continent, and the series starts by explaining how the massive land mass of Pangea was ripped apart millions of years ago by incredible forces to eventually create the diverse continents we have today.

It starts with the extraordinary (and often venomous) wildlife of Australia, explaining how its animals were isolated from the rest of the world after the continents broke apart, and how they now survive in the varied and often harsh landscapes, including a surprisingly snowy landscape of eastern Australia that is braved by the seemingly ill-suited but persistent wombat.

In North America, the series explores how the continent offered rich resources to its first inhabitants and opportunities later to pioneers forging a new life on an unfamiliar landscape. It shows how climate change and reduced sea ice has forced one population of polar bears to adapt by hunting beluga whales from rocky outcrops in Hudson Bay. In South America, the wonders of the Andean cloud forests are shown, with creatures such as the Andean bear and Pinocchio lizard (named because of its very long and upturned snout), which was discovered only 50 years ago, then lost, and recently rediscovered.

In Asia, animals endure within Earth's hottest deserts and occupy its highest mountains. European animals adjust to life among dense populations of people. Whales, seals, penguins, and starfish thrive on and under the ice of Antarctica. In Africa, young chimpanzees learn to make tools, and herds of antelopes, wildebeest, and zebras throng the Serengeti.

The vast array of natural wonders on display in *Seven Worlds, One Planet* delights, but also confronts viewers with the challenges facing the natural world—and a sense of the urgency required to protect it.

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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HORSE RESCUES HARD PRESSED BY PANDEMIC

During the COVID-19 crisis, equine rescues across the country are contending with dwindling supplies, support, and income. These rescues often rely on fundraising events such as open houses and adoption fees as revenue sources, and require dedicated staff and volunteers to care for the horses, train the horses in preparation for adoption, and help with the overall maintenance that keeps the facilities running smoothly. In order to stave off the spread of the virus and limit public interaction, many equine rescues have closed their doors, and volunteers who would normally assist in caring for the animals, cleaning stalls, and maintaining the grounds are unable to visit.

AWI has been assisting these rescues through the Homes for Horses Coalition, which AWI co-founded with the Humane Society of the United States in 2007 to end horse slaughter and other forms of equine cruelty and to provide care and homes to horses in need. Today, the network has grown to over 500 member organizations. AWI continues to co-lead the

coalition, which has been providing emergency aid to rescues and sanctuaries in the wake of the crisis, particularly in areas hardest hit by the pandemic and where supply chains have been most disrupted. Funding has focused primarily on ensuring that rescues can cover the costs of veterinary care, hay, and feed. (Hay and feed alone can run several thousand dollars a week for facilities that house dozens of equines.) To date, 18 rescues in 14 states have received grants.

In May, the Homes for Horses Coalition was slated to host its annual conference—an event that brings together animal advocates from across the United States to learn about a wide range of issues affecting equine welfare. Funding for the cancelled conference has been reallocated in its entirety to provide direct financial assistance to equine rescues and shelters in an effort to help them weather this storm.

To learn more about the Homes for Horses Coalition, please visit www.homesforhorses.org. 🐾

