# 



#### SPOTLIGHT

# New Whale Species Identified in Gulf of Mexico

Scientists from NOAA Fisheries have identified a new species of baleen whale in the Gulf of Mexico. The new species, previously thought to be a subspecies of the Bryde's whale, has been named Rice's whale (*Balaenoptera ricei*) in honor of Dale Rice, who enjoyed a distinguished 60-year career in marine mammal science. Rice, who passed away in 2017 at the age of 87, was the first researcher to recognize that these whales were even present in the Gulf.

The NOAA scientists, led by Dr. Patricia Rosel, identified the species after conducting morphological examinations of whale skulls and analyzing genetic data. Rosel began this research in 2008 when she and co-author Lynsey Wilcox examined the first genetic data obtained from samples

collected on NOAA Fisheries vessel surveys in the Gulf. Their confirmation of a new species was published online in January by the journal *Marine Mammal Science*.

Believed to number only two to three dozen animals, Rice's whales are found only in the Upper Gulf of Mexico and are facing an uncertain future. When classified as Bryde's whales, they were designated as "endangered" under the Endangered Species Act and further protected under the Marine Mammal Protection Act. Now recognized as a separate species, they are considered critically endangered, although that designation is not yet official and won't be until the species name is formally accepted by the Society for Marine Mammalogy Committee on Taxonomy.

Rice's whales occupy a relatively industrialized stretch of ocean and face a number of threats to their survival including pollution, oil and gas exploration and extraction, ocean noise, entanglement in fishing gear, and strikes from vessel traffic. Yet their discovery so close to the continental United States provides scientists with a prime opportunity to study and, hopefully, save them.

#### FOUNDER

Christine Stevens

#### DIRECTORS

Cynthia Wilson, Chair Jill Carey Caroline A. Griffin, Esq. Mary Lee Jensvold, PhD Alan E. Kessock, CPA Cathy Liss Chris Miller, DVM William S. Stokes, DVM

#### OFFICERS

Cathy Liss, President Cynthia Wilson, Vice President Alan E. Kessock, CPA, Treasurer Caroline A. Griffin, Esq., Secretary

#### SCIENTIFIC COMMITTEE

Gerard Bertrand, PhD Roger Fouts, PhD Roger Payne, PhD Viktor Reinhardt, DVM, PhD Robert Schmidt, PhD John Walsh, MD

#### INTERNATIONAL COMMITTEE

Aline S. de Aluja, DVM, *Mexico* Ambassador Tabarak Husain, *Bangladesh* Angela King, *United Kingdom* Agnes Van Volkenburgh, DVM, *Poland* 

#### STAFF AND CONSULTANTS

Nadia Adawi, Esq. Executive Director/General Counsel

Alexandra Alberg Senior Graphic Designer Nancy Blaney Director, Government Affairs Kate Dylewsky Senior Policy Advisor Sue Fisher Marine Animal Consultant Marjorie Fishman Public Relations Manager

Allie Granger Farm Animal Policy Associate Joanna Grossman, PhD Equine Program Manager and Senior Advisor

Johanna Hamburger, Esq. Director and Senior Staff Attorney, Terrestrial Wildlife Program

Sydney Hearst Digital Advocacy Manager

Dena Jones Director, Farm Animal Program Eric Kleiman

Researcher Allison Ludtke

Policy Advisor Joanna Makowska, PhD Laboratory Animal Advisor

Susan Millward Director, Marine Animal Program Carly O'Beirne

Membership Coordinator Kate O'Connell

Marine Animal Consultant Mary Lou Randour, PhD

Senior Advisor, Animal Cruelty Program Naomi Rose, PhD Marine Mammal Scientist D.J. Schubert Wildlife Biologist

Writer/Editor

Zack Strong Senior Stoff Attorney, Terrestrial Wildlife Erin Sutherland, Esq. Staff Attorney, Farm Animal Program Regina Terlau-Benford Executive Assistant Dave Tilford

For subscription inquiries or other information, contact:

Animal Welfare Institute 900 Pennsylvania Avenue, SE Washington, DC 20003 (202) 337-2332 awi@awionline.org awionline.org

ISSN 1071-1384 (print) ISSN 1930-5109 (online)

Tax ID# 13-5655952 CFC# 10474



#### AWI QUARTERLY SPRING 2021

#### ANIMALS IN LABORATORIES

- 24 Cuttlefish Show Cognitive Complexity
- 24 New System Allows NonInvasive Study of Freely Moving Macaques
- 24 Letting Animals Control the Remote
- 25 Tens of Millions of Animals in Research Are Unprotected

#### FARM ANIMALS

- 4 USDA Secretary Faces Lingering Farm Animal Welfare Issues
- 4 Anti-confinement Regulations Overdue in Massachusetts
- 4 Utah Adopts Farm Animal Best Management Practices
- 5 Barn Fires Continue to Kill Massive Numbers of Farm Animals
- 6 AWI Challenges Boar's Head "Humanely Raised" Claim

#### HUMANE EDUCATION

- 9 AWI Scholarship Winners Pursue Higher Education to Help Animals
- 9 "A Voice for Animals" Contest Open to Students Worldwide

#### MARINE LIFE

- 2 New Whale Species Identified in Gulf of Mexico
- 10 Paul Hoetjes: Defender of Caribbean Wildlife and Environment
- 12 Licensing Program Proposed for Puget Sound Whale-Watch Vendors
- 12 Aquarium Import in Flux After Belugas Fall Ill
- 12 New Report Examines How Biodiversity and Economic Health Intertwine
- 28 Texas Storms Bring Misery to Humans and Animals

#### WILDLIFE

- 13 Using Acoustics to Reduce Avian Collisions with Tall Structures
- 14 A Call to Phase Out Mink Farms
- 16 Wildlife Research Grants Available from AWI
- 16 Court Orders USFWS to Get Red Wolf Recovery Back on Track
- 16 High Hopes Secretary Haaland Will Halt Surgical Sterilization Scheme
- 17 Efforts to Weaken Migratory Bird Protections on Hold
- 17 Humane Control of Gray Squirrels in the UK
- 18 Administration Shows Early Enthusiasm for Wildlife Protection

#### GOVERNMENT AFFAIRS

- 20 Positive Provisions for Animals in 2021 Spending Bill
- 21 Animal Welfare Measures in the  $117^{th}$  Congress
- 21 Zoonotic Disease Transmission Addressed in Stimulus Package
- 21 NOAA Proposes Rule to Curb Right Whale Deaths
- 22 National Academies Report Is a Positive Step Toward End of Soring
- 23 USDA Urgently Needs Upward Trajectory in Enforcement of Animal Protection Laws

#### REVIEWS

- 26 Wild Rituals
- 27 The One and Only Wolfgang
- 27 Celebrating Birds





#### **ABOUT THE COVER**

Mink in the wild are high-energy animals, always on the move and on the alert. They can adapt to life in forests, grasslands—even semideserts, if enough water is present. As indicated on the cover, they are also perfectly happy to roam intertidal zones in search of crustaceans, fish, and other prey. In contrast, mink on fur farms lead lives of extreme confinement, under miserable (and largely unregulated) conditions. Mink farms, in addition to being cruel, are under increasing scrutiny as incubators of COVID-19. It is time to end mink farming in the United States. To learn more, turn to page 14. Photograph by ElementalImaging.

#### f facebook.com/animalwelfareinstitute

🥑 @AWIonline 🖸 @AWIonline

#### USDA SECRETARY FACES LINGERING FARM ANIMAL WELFARE ISSUES

Thomas Vilsack has returned as secretary of the US Department of Agriculture, a post he held previously during the Obama administration. Vilsack, a former Iowa governor, spent the past four years lobbying for the US dairy industry.

Vilsack now has the opportunity to correct course on a number of actions taken by the Trump administration that were detrimental to animal welfare. With respect to the treatment of farm animals, one of the more glaring examples was that administration's withdrawal of a regulation establishing welfare standards for animals raised under the USDA's Certified Organic program. In a meeting with President Biden's transition team in late 2020, AWI urged the new administration to prioritize reinstatement of the organic rule.

Another pending issue is the speed at which chickens and pigs are slaughtered at federally inspected processing plants. The USDA under Trump proposed allowing poultry slaughterhouses to operate at faster speeds, which would have jeopardized the welfare of both animals and plant workers. The department withdrew the proposal, but granted dozens of waivers to individual plants allowing them to increase line speeds. The department must now decide how to handle these waivers.

The previous administration also published a proposed framework for regulating the genetic engineering of farm animals under the USDA. The proposal (recently reopened for additional comments) was opposed by the US Food and Drug Administration, which has historically overseen the genetic engineering process for animals. In commenting on the proposal, AWI urged the new administration to keep oversight of the process under the FDA, as moving it to the USDA could create a bias that would be detrimental to animal welfare.

#### ANTI-CONFINEMENT REGULATIONS OVERDUE IN MASSACHUSETTS

At the start of 2021, animal protection organization Humane Farming Association (HFA) filed suit against the Massachusetts attorney general for failing to promulgate regulations mandated under the state's Prevention of Farm Animal Cruelty Act. The 2016 law, enacted via a ballot measure that was approved by 77 percent of voters, prohibits the use of gestation crates, veal crates, and battery cages and requires producers to provide egglaying hens with at least 1.5 square feet of usable floor space. The law also prohibits the sale of meat and shell eggs produced from animals confined in such a manner. HFA's lawsuit seeks to compel the attorney general to promulgate regulations for implementation and enforcement of

the law, which the office was legally required to do by the start of 2020.

#### UTAH ADOPTS FARM ANIMAL BEST MANAGEMENT PRACTICES

Recently, the Agricultural Advisory Board of the Utah Department of Agriculture and Food adopted best management practices for the state's animal agriculture industries. The new animal care standards, which will be reviewed annually by the advisory board, provide minimum guidance for the care and treatment of animals raised on farms in the state and cover cattle. sheep, pigs, and poultry. The advisory board was required to adopt the standards under a law enacted in 2018. but had taken no steps toward fulfilling this obligation until pressed to do so by AWI. While the standards (which are recommendations) are not as strong as we would like, for those who opt to abide by them, they are a modest start toward meeting animals' basic needs and providing some level of protection against neglect and suffering.





TKA PHOTOGRAPHY

#### Barn Fires Continue to Kill Massive Numbers of Farm Animals

his past year, over 1.6 million farm animals were reported L killed in barn fires across the United States, making 2020 the deadliest year since AWI began tracking these incidents through media reports. Since 2013, more than 5 million animals have died in barn fires throughout the country, and the problem appears to be only escalating. Unfortunately, there are no state or federal laws in the United States designed to protect farm animals from barn fires.

As reported by the media, Nebraska experienced the most animal deaths in 2020 from barn fires (400,000 in three fires), followed by Michigan (300,000 in eight fires), California (280,000 in five fires), and New Jersey (280,000 in one fire). Of the 89 barn fires tracked by AWI last year, New York reported the most (10), followed by Pennsylvania (9).

As in previous years, chickens—particularly egg-laying hens fared the worst, accounting for 90 percent of all farm animals killed by fire in 2020. Additionally, there appears to be a rise in fires at cage-free egg production facilities, which have killed nearly 1.3 million hens this past year alone. The four barn fires with the highest number of farm animal deaths, each of which took the lives of hundreds of thousands of animals at once, all involved cage-free hens at large commercial facilities.

It is no surprise that we continue to see extraordinarily high casualties at commercial egg farms, given that laying hens are confined by the largest numbers, with the least amount of space per animal. In cage-free housing in particular, scientific research has documented dust levels up to nine times higher than in cage housing. AWI is currently researching the causes

of recent large fires at egg production facilities, but we suspect that high levels of dust, alone or in combination with litter, contributes to the number and severity of fires in cagefree (but still-crowded) barns.

Now is a critical time to address this issue, as the US egg industry continues to transition from conventional to cagefree housing as a potentially positive welfare measure, following the enactment of cage-free legislation in a number of states and growing pressure from grocery retailers and influential players within the food service industry that have committed to purchasing and supplying only cage-free eggs. Recognizing this urgency, AWI sent a letter in March 2020, together with a petition with over 10,000 signatures, to the U.S. Poultry & Egg Association, highlighting the importance of this issue and urging it to act. The organization has since announced that it is funding research at North Carolina State University to investigate technologies that could potentially improve air quality in cage-free housing by reducing dust levels. In addition to improving hen welfare through better air quality, the results of this research may prove useful for addressing barn fires and mitigating the risk they pose.

Consumers can ensure they are supporting higher welfare farms rather than large commercial facilities that fail to protect their hens by selecting eggs that are labeled "free range" or "pasture raised" and come from farms that are third-party certified for animal welfare. Download AWI's free A Consumer's Guide to Food Labels and Animal Welfare to learn more: awionline.org/FoodLabelGuide. 🏖

## AWI Challenges Boar's Head **"Humanely Raised"** Claim

filed challenges before the Federal Trade Commission in February against Boar's Head over the company's claim its chicken sausage and Simplicity All Natural turkey products derive from animals who are "humanely raised." There is no evidence, in fact, that Boar's Head—a billion-dollar deli products company based in Sarasota, Florida—exceeds minimum industry standards in raising these animals. AWI is requesting, therefore, that the FTC prevent Boar's Head from engaging in marketing designed to create the false impression that the chickens and turkeys in Boar's Head facilities are better off than birds in any other industrial facility.

For nearly a decade, AWI has been monitoring animal welfare claims on food packages to determine whether they are truthful. When producers make misleading animalraising claims, it deceives consumers who seek higherwelfare alternatives. It undercuts farmers who actually do raise their animals to a higher standard and should receive a marketplace advantage for doing so. And it harms the animals who continue to suffer under poor conditions even as the producer misrepresents to the public that they are being treated humanely.

AWI's challenge represents the first time the FTC has been presented with on-farm animal care audits as evidence

against the use of such an animal welfare claim. Boar's Head bases its "humanely raised" claim on the fact that it submits to industry audits conducted by the National Turkey Federation (NTF) for its turkey products and by Farm Animal Care Training and Auditing (FACTA) for its chicken products. (The FACTA audit is based on animal care guidelines established by the National Chicken Council.) But these audits merely confirm that the company follows established industry practices—which fall far short of scientifically established standards for the humane treatment of farm animals.

Such audits are not comparable to independent animal welfare certification programs. The National Advertising Division (NAD) of BBB National Programs, in fact, has cautioned against relying on industry audits to support similar animal-raising claims. In 2019, following a successful AWI challenge, the NAD recommended that Hatfield Quality Meats and its parent company, Clemens Food Group, discontinue the claim "ethically raised by family farmers committed to a higher standard of care, governed by third party animal audits" on product packaging for Hatfield pork products. AWI had argued that consumers perceived the claim to mean that Hatfield's animals receive better treatment than animals raised in conventional industrial facilities—a perception that Hatfield could not substantiate.

AWI's most recent survey of consumer perceptions found that 84 percent of consumers agree that the claim "humanely raised" should only be used by producers that exceed minimum industry animal care standards. Three prior surveys commissioned by AWI within the past decade have found the same. Consumers indicate that the cruel practices used on factory farms, such as breeding for rapid growth, intensive confinement of animals in barren environments, and nearconstant low-level lighting do not qualify as humane. Such practices are permissible, however, under FACTA and NTF audit guidelines.

The FACTA and NTF audits do not even require 100 percent compliance, and they put little emphasis on essential welfare standards such as environmental enrichment, adequate lighting, and low pre-slaughter mortality rates. The FACTA audit is also designed so that producers can easily manipulate or challenge standards that could be difficult to meet. For instance, in one on-farm audit that AWI reviewed, a producer successfully challenged a lighting standard by producing a study purporting to show that lower light levels do not negatively affect chicken welfare. Another examination revealed that the audit was conducted while the birds were young so that their smaller size would not result in a nonconformance relating to stocking density.

In contrast, independent animal welfare certification programs such as Certified Animal Welfare Approved and Certified Humane generally require adherence to higher standards of care in order to justify humane raising claims that may merit charging premium prices. Processors that are allowed to base such claims on bare-minimum industry audits, therefore, undercut higher-welfare farmers while avoiding pressure to improve their animal care practices. Unfortunately, consumers are bombarded with bogus animal welfare claims on meat products, according to AWI research. A 2019 report by AWI, Label Confusion 2.0: How the USDA Allows Producers to Use "Humane" and "Sustainable" Claims on Meat Packages and Deceive Consumers, found that the US Department of Agriculture continues to allow producers to make deceptive animal welfare and environmental stewardship claims. This report analyzed a selection of the USDA's label approval files for meat and poultry products and found that half of claims found on meat and poultry products lacked substantiation. When producers did submit documentation, it did not provide the level of detail necessary to determine whether that producer actually elevated the standard of care for its animals.

The "humanely raised" claim found on these Boar's Head products epitomizes the problems with the USDA's label approval program. The USDA approved the use of the claim "humanely raised" despite the fact that Boar's Head provided no substantiation that it actually improved the standard of care it provided to its chickens and turkeys.

The USDA's failures enable producers to continue using misleading label claims in the marketplace. The department has thus far dodged AWI's efforts to persuade it to stop this practice. In 2014, AWI petitioned the USDA to amend its labeling regulations to require third-party certification of animal welfare and environmental stewardship claims. The USDA ignored the petition for four years. After AWI sued the department for failing to respond, it finally did—by rejecting the petition.

The USDA's complacency has forced AWI to pursue other avenues to combat misleading advertising practices, such as



bringing the most recent case before the FTC. As summarized below, AWI and other animal protection organizations have brought several challenges before the FTC and NAD to end deceptive advertisements, with mostly positive outcomes. In the present case, AWI is hopeful that the FTC will see through the deceptive practices of Boar's Head and stop it from making misleading claims about its chicken and turkey products.

#### CASE STUDIES: FTC Challenges to Advertising Claims

#### CHICKEN

#### **Pilgrim's Pride**

Action filed in 2019 challenged the claims "100% natural" and "humanely raised," among others on the Pilgrim's Pride website. Pilgrim's Pride subsequently removed these claims (although its representatives asserted that it was not in response to the complaint).

#### **Foster Farms**

Action filed in 2015 challenged Foster Farms' use of the "American Humane Certified" label after an undercover investigation revealed abuse at one of its farms. The FTC chose not to recommend enforcement action because Foster Farms took internal action against the supplier accused of abuse.

#### **Allen Family Foods**

In 2011, AWI brought a National Advertising Division (NAD) challenge against Allen Family Foods for its use of the claim "humanely raised" on its chicken packaging. (The NAD is a division of BBB National Programs.) Allen Family Foods entered bankruptcy shortly after the challenge was filed. In closing the case, the NAD remarked that removal of the claim was "necessary and appropriate." Allen Family Foods was purchased by Harim Foods, and renamed Allen Harim Foods. Despite the NAD's statement, Allen Harim continued using the claim on its product packaging, forcing AWI to request that the case be referred to the FTC. In 2014, the FTC notified the NAD that Allen Harim had agreed to participate in the NAD inquiry. Ultimately, the company removed the claim and became third-party certified for animal welfare.

#### PORK AND OTHER MEAT

#### **Tyson Foods**

Action filed in 2013 about statements Tyson Foods made in promotional videos and on its website that put a false spin on its conventional beef, pork, and chicken products (e.g., "leading the industry pursuit ... to enhance animal wellbeing"). The FTC reviewed submissions from Tyson and accepted its decision to remove the promotional videos from YouTube and clarify its position on pig gestation crates.

#### **Seaboard Foods**

Action filed in 2012 about the company's claims on its website that it used "best industry practices" and that its pork products came from pigs who were "free from cruelty" and were raised via "the most humane practices throughout the animal's life." Several other claims were challenged as well. The action was settled when Seaboard Foods agreed to remove the "most humane" claim from its website.

#### EGGS

#### Sparboe Farms

Action filed in 2011 disputing claims on Sparboe Farms' website and advertisements that its hens are provided "five essential freedoms." The FTC determined no action was needed because the company removed the claims from its website.

#### United Egg Producers (UEP)

Action filed in 2005 against the organization's label "Animal Care Certified," which was used on conventional egg product labels. While the FTC did not issue a formal decision, it encouraged UEP to change labels after the NAD recommended this action. UEP changed the label to read "United Egg Producers Certified."

#### AWI SCHOLARSHIP WINNERS PURSUE HIGHER EDUCATION TO HELP ANIMALS

"Even if animals were to experience pain differently: humans shouldn't be harming them at all," reads the last line of an essay question response submitted by one of AWI's recent scholarship winners. The questionwhich asks applicants to consider whether certain species feel more pain than others—is one of several that students chose from when completing their submissions to the Animal Welfare Institute Scholarship. This is the second year of the scholarship, which was first introduced in November 2019 as a part of our Giving Tuesday campaign.

The scholarships are awarded to high school seniors in the United States who are planning to use their education to better the lives of animals, and who are already actively involved in efforts to do so within their schools or communities. Of the submissions received this year, the AWI scholarship committee selected 13 students to be awarded \$2,000 each for use toward post-secondary education expenses. We are proud to help support these dedicated individuals as they take the next steps toward continued endeavors on behalf of animals.

In applying for the scholarship, applicants had to describe their efforts on behalf of animals and their plans for college and beyond. Students were also asked to express briefly in writing their thoughts and beliefs on animal-welfare related topics. The 2021 winners have an impressive collective history of volunteerism, with extracurricular activities ranging from rehabilitating horses, to lobbying their government representatives, to creating educational programs for younger students.

Many of the submissions received were from pre-vet majors, but we also heard from aspiring wildlife biologists, journalists, and filmmakers—all who recognize the potential impact these varied career paths can have on animal welfare. The initiative and energy shown by this year's applicants made for some difficult decisions in the selection process, but it is



RAWPIXEL.COM

inspiring to know that these amazing young advocates are ready to lead the way. AWI congratulates the following exemplary students and wishes them the best:

Yaire Barboza, California; Victoria Bonavita, New York; Amanda Brown, Washington; Amber Christensen, Virginia; Hayden Clary, South Carolina; Kylie Cocca, New York; Elise Glascock, Iowa; Ashlyn Gotori, California; Drake Hair, North Carolina; Tia Joseph, Maryland; Alexis Sanders, Florida; Alexis Wood, New Hampshire; and Tyler Wood, Virginia.

#### "A VOICE FOR ANIMALS" CONTEST OPEN TO STUDENTS WORLDWIDE

The AWI Scholarship isn't the only way we are encouraging students who are committed to making a difference for animals. AWI and the Humane Education Network are excited to present the 31st annual "A Voice for Animals" contest for high school students across the globe. Students ages 14–18 can earn cash prizes by submitting essays, photo essays, or videos that address important animal welfare issues and showcase their own work on behalf of animals. Visit *hennet.org* for instructions on how to enter and to view winning submissions from previous years. The entry deadline is Friday, April 30, 2021. Enter now or forward this notice to students you know who may be interested!

Two ways that AWI seeks to support teen animal advocates are (1) our AWI Scholarship, available to graduating US seniors seeking to pursue higher education leading to a career in animal protection and (2) the "A Voice for Animals" contest, which invites high school students around the globe to showcase their efforts on behalf of animals.

# — PAUL HOETJES — Defender of Caribbean Wildlife and Environment

The Wider Caribbean Region has lost a wonderful conservation champion. Paul Hoetjes of Bonaire, Caribbean Netherlands, died in November after a short illness. AWI was fortunate to have worked with Paul over the past two decades, after being introduced to him by Col. Milton Kaufmann, another environmental champion for the region. We fondly remember Paul's dedication, professionalism, kindness, and astute diplomatic maneuverings to achieve valuable conservation goals.

Paul was born in 1955 in The Hague, Netherlands. He spent his early childhood in Netherlands New Guinea (now part of Indonesia) before moving with his family to the Netherlands Antilles, where he graduated from Radulphus College in Willemstad, on the island of Curaçao. When Paul was 16, he returned to the Netherlands to attend the University of Amsterdam, where he studied zoology and aquatic ecology. In 1984, he obtained a master's degree in natural sciences with a minor in tropical botany.

The following year, Paul returned to the Caribbean as curator of the new Curaçao Sea Aquarium, a job he held for 13 years. He oversaw the design, construction, and operation of the aquarium and managed its educational programs, species identification, and animal health program for the facility's fish, sea turtles, sea lions, and other fauna. During that time, Paul established the nonprofit Reef Care Curaçao, aimed at combating the destruction of coral reefs in the region. As chair of the organization, he helped raise public awareness and organize civil actions against developments that would negatively impact reefs. In 1998, Paul became a senior policy advisor for the Netherlands Antilles's Ministry of Public Health and Environment. He stayed in government service until his retirement in 2020. This role gave him direct opportunities to influence government decisions locally as well as regionally, and always on the side of conservation. He was directly involved in developing national environmental and nature conservation policy and promoting sustainable development, including sustainable tourism and energy policy.

Paul was the Netherlands Antilles's deputy national authority for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), monitoring imports and exports of endangered species. He was the coordinator of the country's small grants fund for environmental and nature conservation projects, the Saba Bank biodiversity survey, and the Netherlands Antilles Coral Reef Initiative and Monitoring Network. He was also a board member of the Dutch Caribbean Nature Alliance and represented the Netherlands Antilles at meetings of the UN Caribbean Environment Programme, including the SPAW Protocol (a regional agreement for the protection and sustainable use of coastal and marine biodiversity in the Wider Caribbean Region).

Before the political division of the Netherlands Antilles in 2010 (into Aruba, Curaçao, Sint Maarten, and the Caribbean Netherlands—the latter of which encompasses the island municipalities of Bonaire, Sint Eustatius, and Saba), Paul helped to establish the large Saba Bank submarine atoll as an International Maritime Organization "Particularly Sensitive Sea Area" to recognize its ecological and scientific significance and protect it from damage by international maritime activities. He later went on to help establish the Yarari Marine Mammal and Shark Sanctuary in the territorial waters of Bonaire and Saba. Until his retirement, he served as policy coordinator for nature with the Caribbean Netherlands under the Ministry of Agriculture, Nature and Food Quality.

During the last decade of his career, Paul directed the Caribbean Netherlands nature policy plan implementation and served as a CITES national management authority, secretary of the Committee for the Joint Management of Biodiversity and Fisheries of the Dutch Caribbean, and national focal point (responsible for facilitating the nation's compliance with the treaty) for the Inter-American Sea Turtle Convention. He also chaired the Consultative Committee of Experts of the Inter-American Sea Turtle Convention, was a member of the Steering Committee of the Global Coral Reef Monitoring Network in the Caribbean, and was national focal point for the SPAW Protocol.



AWI best knew Paul through his work with the SPAW Protocol. (AWI has been an active participant in the operation of this protocol since it was adopted in 1990 and entered into force in 2000.) He could always be counted on for leadership, dedication, and willingness to promote progressive ideas. He was, in fact, the go-to person for everything concerning the SPAW Protocol. The SPAW secretariat relied on Paul as a resource for long-standing knowledge of the program and to chair or moderate meetings. SPAW member governments turned to him for assistance in understanding tricky concepts and new proposals and to lead discussions and negotiations.

To AWI and other nonprofits working to push the SPAW governments to do more to protect the Caribbean natural environment, Paul was a champion. His practical and wise advice, friendly manner—even under difficult and testy situations—and, above all, ardor for protecting the natural world were valued beyond measure. He will be missed by all who seek to protect the animals and plants of the Caribbean. He will be missed especially by the AWI staff who were lucky enough to have worked with him.

Paul's work on the Cartagena Convention—the overarching treaty that includes the SPAW Protocol and two other protocols covering pollution prevention—was legendary. In 2020, Paul was nominated for an award from the United Nations for his work. In addition to its lengthy description of his work with the convention over several decades, the nomination states as follows:

Hoetjes has been a champion for conservation in the Wider Caribbean Region (WCR). He has been at the forefront of marine conservation objectives of the Secretariat for the Cartagena Convention and its Specially Protected Areas and Wildlife (SPAW) Protocol for over two decades. He was one of the architects of this Protocol, the only regional agreement for Marine Biodiversity conservation. His scientific expertise, leadership, diplomacy and negotiating skills have facilitated collaboration among multiple stakeholders leading to increased awareness and biodiversity protection. Mr. Hoetjes' tireless engagement and dedication to the implementation of the SPAW Protocol for over two decades has resulted in the listing of several species for protection and conservation of critical habitats. Through his leadership, innovative programs for establishing and connecting marine sanctuaries were established. His great leadership, equanimity and scientific knowledge of marine issues has made him an invaluable resource for the Cartagena Convention and the region.

#### LICENSING PROGRAM PROPOSED FOR PUGET SOUND WHALE-WATCH VENDORS

The Washington Department of Fish and Wildlife has published a draft rule to establish a commercial whale-watching licensing program in Puget Sound. AWI submitted comments supporting strong oversight to maximize protection of Southern Resident orcas in an intensive whale-watching area. While we praise the state's move to add protections for these endangered whales, our comments emphasized the benefits of responsible commercial whale watching and noted that unregulated recreational boaters are responsible for far more harassment.

We also do not want this laudable effort to license commercial whalewatching vessels to distract from the far more critical concern of prey scarcity facing the orcas. Salmon stocks throughout the region are struggling due to human-caused habitat degradation. While noise and harassment from commercial and recreational whale-watching vessels are significant, the whales are far better able to manage these stressors when they are well fed. The most important regulatory action the whales need now is restoration of salmon spawning habitat. This must include strategic dam removal, a step managers have been notoriously reluctant to take. Unless *all* steps to restore the region's marine ecosystem are taken, regulating commercial whale watchers—however well intentioned—is but a Band-Aid applied to a gaping wound.

#### AQUARIUM IMPORT IN FLUX AFTER BELUGAS FALL ILL

AWI and a number of allies and partners have been working to minimize the harm to five beluga whales scheduled for import to Mystic Aquarium in Connecticut from Marineland in Niagara Falls, Ontario, for research purposes. The importation permit, with numerous restrictive provisions advocated by the coalition during the public comment period, was issued in August 2020 (see AWI *Quarterly*, winter 2020). The global pandemic and other factors have delayed the transfer. The coalition has learned that in the interim. however, three of the whales covered by the permit became ill, and Mystic



successfully petitioned the National Marine Fisheries Service to substitute three other whales. The whales' illnesses are transmissible, suggesting a major health situation exists at Marineland. We are informing both the US and Canadian governments that allowing any transfer from a facility facing such a health crisis is extremely ill-advised. Belugas should be prevented from entering the United States until Marineland provides transparent records indicating the whales are healthy.

#### NEW REPORT EXAMINES HOW BIODIVERSITY AND ECONOMIC HEALTH INTERTWINE

A February 2021 report commissioned by the UK government provides a sobering economic analysis to explain why we must change the way we interact with nature if we wish to avert disaster. The Economics of Biodiversity: The Dasgupta Review—led by Professor Sir Partha Dasgupta of Cambridge University and supported by an advisory panel comprising experts on public policy, science, economics, finance, and business—sets forth how our misuse of nature threatens our economies. livelihoods, and the well-being of the planet. Sir David Attenborough, in a foreword, summarizes the report's call to action: "Putting things right will take collaborative action by every nation on earth. ... Each ecosystem has its own vulnerabilities and requires its own solutions. There has to be a universally shared understanding of how these systems work, and how those that have been damaged can be brought back to health."

A Southern Resident orca breaches off Henry Island in Haro Strait. The Washington Department of Fish and Wildlife is seeking to regulate commercial whale watching in nearby Puget Sound to help protect these animals.

### USING ACOUSTICS TO REDUCE AVIAN COLLISIONS WITH TALL STRUCTURES

Billions of birds fatally collide with human-made structures each year. These mortalities have consequences for avian population viability and the conservation of endangered species. This source of human-wildlife conflict also places economic and operational constraints on various industries. Furthermore, with continued increases in urbanization, the number and geographic extent of collisions continue to increase.

Efforts to reduce collisions have largely focused on making structures more visible to birds, such as through accessory lighting or through altering the color of the structure or its components. However, many of these methods have been only moderately successful. We investigated the efficacy of a multimodal combination of acoustic signals with visual cues to reduce avian collisions with tall structures in open airspace what we refer to as an "acoustic lighthouse." Based on earlier investigations, we predicted that novel acoustic cues would alter the visual attention of flying birds to make the structure more apparent and reduce the probability of collision.

In this study, partially funded with a Christine Stevens Wildlife Award from AWI, we broadcast two audible frequency ranges in front of tall communication towers in the Atlantic migratory flyway of Virginia during the annual southbound bird migration. Specifically, we compared the effects of lowerpitched (4–6 kilohertz) and higher-pitched (6–8 kilohertz) sound stimuli. These stimuli were generated from white noise filtered to their specific frequency ranges and sound similar to a fast-flowing river and loud gas leak, respectively. We employed a novel behavioral framework, implemented through three-dimensional modeling of bird flights, to assess collision risk and evaluate mitigation success. We recorded an overall 12–16 percent lower rate of bird activity surrounding towers during sound treatment conditions, compared with control (no broadcast sound) conditions.

Furthermore, when birds entered the area close to the towers, the acoustic stimuli resulted in greater deflection away from the towers and slower flight velocities. In particular, the 4–6 kHz stimulus produced the greater effects, perhaps because this frequency range is more clearly audible to the flying birds. When exposed to a 4–6 kHz sound, estimates showed that birds flew 1.5 meters per second slower and 5 meters farther away from the towers, on a heading that was farther away from the tower, relative to flights in control conditions.

Our study demonstrates that this "acoustic lighthouse" concept reduces the risk of collision for birds in the field and could be applied to reduce collision risk associated with many human-made structures—such as wind turbines and tall buildings—thereby potentially saving billions of birds annually.

by Timothy Boycott, Sally Mullis, and John Swaddle of William & Mary University and Brandon Jackson of Longwood University



# A Call to Phase Out Mink Farms

**E** ver wonder where the fur in that celebrity's designer parka came from? Chances are, it came from a terrified mink in a tiny cage. About 85 percent of the fur used in coats, scarves, wraps, and other fashion items is derived from animals in fur farms, primarily mink. Like other industrial animal operations, mink farms typically involve thousands of animals intensively confined in long rows of adjacent barren pens barely large enough for the animals to move around. The conditions are not only inhumane, they also create a human health risk by facilitating the spread of disease. Yet, no federal regulations (and few state regulations) governing mink or other fur farms exist.

In the United States, many types of furbearing species are raised for their pelts, including foxes, rabbits, and chinchillas. Mink, however, is the most commonly raised furbearer and the only species for which any information about production is publicly available. According to the US Department of Agriculture, in 2017 there were 236 mink operations in the country that produced about 3.3 million pelts, generating about \$120 million. The industry has declined significantly since then, generating only \$59.2 million in 2019 as a result of shrinking consumer demand for real fur and a commitment by major fashion brands such as Gucci, Versace, and Giorgio Armani to go fur-free. But mink farms continue to operate in a number of states, including (as of 2017) Wisconsin (with 67 such farms), Utah (55), Idaho (23), Oregon (17), and Minnesota (13).

Mink in the wild are remarkable creatures. They are mostly solitary, semiaquatic carnivores, with long tails, elongated bodies, and short legs. With partially webbed feet, dense, insulating underfur, and a taste for fish and crayfish, they are as at home in water as they are on land. They remain active year round and can occupy a variety of habitats—from dense forests to open grasslands and even semideserts—as long as water is available. Mink have been bred in captivity for only a century or so—compared to thousands of years for truly domesticated animals. Thus, in instinct and temperament, farmed mink are still essentially wild animals kept in cages.

Pens on mink farms are usually made of mesh wire, so that most of the animals' excrement will fall through and not collect in the cage. If the pens are stacked on top of each other, which they often are, animals below can be doused with the feces and urine from those above. All of the animals live in the stench of the waste that piles up on the ground below. The strain and discomfort of standing on wire day after day can lead to leg deformities and other injuries. The close quarters and stressful conditions can also have a severe psychological impact, leading to destructive behaviors such as bar-biting, self-mutilation, aggression, cannibalism, and infanticide. It is difficult to imagine a more inappropriate, disturbing environment for a naturally solitary, waterdependent animal than a caged, crowded, waterless existence.

Mink are typically bred in late winter; kits are born in the spring. The kits' winter fur begins developing in the late summer and, by early winter when the fur is fully developed, operators kill them-most commonly by breaking their necks, anal electrocution, or poison gas. Because they are a wild species raised for their fur, mink are not afforded the protections of the Animal Welfare Act, the Humane Methods of Slaughter Act, or the Dog and Cat Fur Protection Act. Like humans, mink are extremely vulnerable to the SARS-CoV-2 virus that causes COVID-19. This year, mink on several US farms contracted COVID-19 from humans, and many thousands died of the disease. In addition, an infected wild mink was found in the immediate vicinity of a mink farm in Utah, raising concerns that escaped farmed mink could transmit the disease to wild animals. COVID-19 outbreaks have also occurred in mink farms across Europe, where most of the world's fur is produced. In Denmark, 17 million mink were culled in November after outbreaks at Danish fur farms. Alarmingly, researchers in both Denmark and the Netherlands have reported evidence of transmission of the virus from infected mink back to humans.

A number of actions are needed to address the most problematic aspects of fur farming. First, mink farming operations should be phased out and the operators fairly compensated for the closure of their businesses. There is precedent for such action: In 2003, England and Wales prohibited fur farming and paid the farmers for their losses. More recently, fur farming has been banned or is being phased out in several other European countries, including the Netherlands, Ireland, and Norway, due to concerns about animal welfare, the spread of COVID-19, or both. Closer to home, California prohibited all fur sales in 2019, and legislators in Hawaii, Rhode Island, Oregon, Connecticut, New York, and Washington have introduced legislation that would ban fur sales or production.

Second, the USDA should require all fur farms (mink or otherwise) to provide annual reports that include information about the number and types of animals raised, the measures taken to adhere to American Veterinary Medical Association guidelines for humane euthanasia, and the steps taken to prevent transmission of COVID-19 among workers, the captive animals, and wildlife. Third, the USDA should regularly inspect these facilities to ensure they are taking necessary health and safety precautions and adhering to euthanasia guidelines, and publish both the inspection results and the operators' annual reports. Such steps are necessary to bring transparency and accountability to an industry for which there is currently no federal oversight, little state oversight, and remarkably little information publicly available.

Animals should not be mistreated simply because they evolved a hide that is coveted by some humans for fashion. Mink are wild creatures meant to run, swim, hunt, construct dens, raise their young, and interact naturally with other members of their species—not spend their lives suffering in a cramped cell. What is more, mink farms risk serving as reservoirs for diseases like COVID-19 that pose a serious threat to public health. At a minimum, we must phase out mink farms while holding all fur farms accountable for the safety of the public and the welfare of the animals they hold captive.





Mink in the wild are quick, stealthy, resourceful predators. Mink on fur farms are kept under shockingly poor conditions that thwart nearly every aspect of their natural instincts and behavior. Top photo: Jo-Anne McArthur; bottom photo: Intothewild\_by

#### WILDLIFE RESEARCH GRANTS AVAILABLE FROM AWI

AWI is now accepting applications for its 2021 Christine Stevens Wildlife Award grant program. Established in 2006 and named in honor of the organization's late founder and longtime president, this grant program provides grants each year of up to \$15,000 to researchers testing noninvasive wildlife study methods and nonlethal techniques to humanely remedy conflicts between humans and wildlife and prevent harm to wild animals resulting from encounters with human settlements and activities. A recently funded study that used sound signals to help birds avoid collisions with urban structures is described on page 13 of this issue.

wildlife

Wildlife researchers across North America are encouraged to apply. The deadline for applications is **May 28, 2021**. Details on how to apply, application materials, and brief descriptions of studies funded in previous years are available at *awionline.org/csaward*.

#### COURT ORDERS USFWS TO GET RED WOLF RECOVERY BACK ON TRACK

The US District Court for the Eastern District of North Carolina ruled in January that the US Fish and Wildlife Service must quickly draft and execute a plan to resume releasing captive red wolves into the wild to bolster the plunging population. The ruling results from a lawsuit filed by AWI and allies in November. (See AWI Quarterly, winter 2020.)

In granting our request for a preliminary injunction, the court agreed that the USFWS's decision to end its captive wolf release program



likely violated both the Endangered Species Act and the Administrative Procedure Act. Judge Terrence Boyle stated in the decision that the agency's lackluster management efforts "fall woefully short of a program designed to conserve the red wolf in the wild" and its about-face on captive release "had significant adverse impacts and will hasten the extinction of red wolves in the wild." The court gave the agency just a few weeks to develop and begin implementing a new captive release plan with specific metrics that can be used to measure performance, to ensure the agency commits to a meaningful number of releases and adheres to a timeframe that will halt further decline and restart recovery.

#### HIGH HOPES SECRETARY HAALAND WILL HALT SURGICAL STERILIZATION SCHEME

Last October, the Bureau of Land Management finalized plans to employ an inhumane surgical sterilization procedure—ovariectomy via colpotomy—to control the population of wild horses in Utah's Confusion Herd Management Area (HMA). (See AWI *Quarterly*, winter 2019.) AWI successfully sued the BLM in 2018 to stop the agency from using this risky, outdated procedure on a herd in Oregon. But the BLM continued to pursue the method and began rounding up horses from the Confusion HMA for that purpose. Five horses died as a result of the roundup.

AWI rallied federal lawmakers to oppose the BLM's reckless plan, and, on November 19, a bipartisan coalition of 58 lawmakers wrote to Interior Secretary David Bernhardt urging him to end it. We are pleased to report that the end-of-year spending package included language directing the BLM to employ safe, proven, and humane fertility control methods—standards ovariectomies would fail to meet.

Hopefully, the new secretary of the interior, Deb Haaland, will quash the plan, which she vocally criticized during her time in the House of Representatives. Haaland has been a strong champion of employing immunocontraceptive vaccines such as PZP to manage herds. AWI led a signon letter of 49 wild horse advocacy organizations and horse rescues asking her to halt the sterilizations.

#### EFFORTS TO WEAKEN MIGRATORY BIRD PROTECTIONS ON HOLD

In the former administration's final days, the US Fish and Wildlife Service published a rule that weakens the Migratory Bird Treaty Act (MBTA) by no longer penalizing individuals and corporations for the "incidental" killing of birds protected under the law. This codifies a 2017 policy reversing the agency's decades-long interpretation that the MBTA prohibits the incidental killing of migratory birds. The new regulation was published despite a federal district court ruling in August 2020 that the policy was unlawful.

The regulation is primarily designed to benefit the oil and gas industry and electric utilities by shielding companies from liability for the millions of birds their operations kill each year. This removes the incentive for companies to adopt sensible strategies to reduce threats that their operations pose to birds. Birds die from colliding with buildings and infrastructure, being electrocuted by power lines, and being poisoned by oil spills and chemical holding ponds, among other hazards. This loss of protections comes at a time when birds are facing unprecedented threats due to habitat loss and climate change.

Thankfully, an executive order issued by President Biden in January required the USFWS to review the MBTA regulation and consider whether to suspend, revise, or rescind the rule. In response, the USFWS delayed its implementation and reopened the comment period to allow for additional input from the public. The USFWS

> Gray squirrels are an exotic species in the UK and are driving out native red squirrels. Immunocontraception is showing great promise as a costeffective, nonlethal way to keep grays in check while giving red squirrels a chance.

subsequently rescinded the 2017 policy and announced that it will propose a new rule to restore federal protections.

AWI has consistently opposed the USFWS's moves to weaken the MBTA. In 2018, we identified concerns with the 2017 policy in a letter to the USFWS and last year joined with the Southern Environmental Law Center and dozens of other organizations in submitting multiple comments opposing the regulation.

#### HUMANE CONTROL OF GRAY SQUIRRELS IN THE UK

In the United Kingdom, gray squirrels are an exotic species, first introduced in the 1870s. While the gray squirrel population has grown to an estimated 2.7 million, native red squirrels have declined from a reported high of 3.5 million to approximately 120,000 today—due to habitat loss and fragmentation, excessive hunting in the 1800s and early 1900s, competition from the larger gray squirrels, and unfamiliar diseases contracted from the grays. To protect red squirrels and woodlands, gray squirrels have been subject to lethal control for decades. Most are shot while others are trapped and then killed by bludgeoning them to death.

Immunocontraception, however, may soon be employed to humanely control gray squirrels in the country. One way of doing this involves placing contraceptive-laced baits in speciesspecific traps or hoppers. Research conducted by the UK's Animal Plant Health Agency indicates that only four days of baiting is sufficient to treat over 90 percent of gray squirrels in a given woodlot. Because gray squirrels are larger and stronger than red squirrels, a heavier trap door will be used to prevent red squirrels and other nontarget species from accessing the bait.

A study in *Ecological Modelling* recently found that short-term culling followed by contraceptive use is the most cost-effective means of rapidly reducing gray squirrel numbers. According to the UK Squirrel Accord, however, contraception can be used to control gray squirrel numbers without culling, but would take longer.







Administration Shows Early Enthusiasm for Wildlife Protection

The president and the executive branch hold enormous sway in setting US wildlife policy—from signing (or vetoing) wildlife-related legislation, to issuing orders and regulations that enhance (or remove) protections for wildlife and habitat, to nominating the federal judges who may determine whether those laws and regulations are valid. Sadly, over the past four years, the Trump administration wielded its power in this arena to weaken major federal laws put in place to safeguard wildlife and its habitat, including the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), and the Migratory Bird Treaty Act (MBTA).

The Trump administration also conducted the first-ever sale of oil and gas leases in the Arctic National Wildlife Refuge (ANWR)—threatening migratory birds, caribou, and polar bears. It removed millions of acres of critical forest habitat for threatened northern spotted owls, proposed unsafe and inhumane surgical sterilization procedures on wild mares, and built miles of steel wall along the US-Mexico border, bypassing environmental review and destroying and further dividing already fragmented landscapes relied upon by hundreds of species. It overturned an Obama-era ban on the



use of lead ammunition and fishing tackle on lands managed by the US Fish and Wildlife Service (USFWS), despite the lethal threat that lead poisoning poses to species such as the golden eagle and sandhill crane.

Over the past four years, ecologically important large carnivores were especially targeted. The administration stripped ESA protections from gray wolves and Yellowstonearea grizzly bears, abandoned red wolf recovery efforts in North Carolina, withdrew an Obama administration proposal to grant ESA protections to wolverines in the contiguous 48 states, and authorized inhumane methods of hunting and trapping wolves, bears, and coyotes in national preserves in Alaska.

In welcome contrast, the current administration has thus far demonstrated a commitment to environmental conservation and wildlife protection. On Inauguration Day, President Biden issued an executive order directing agency heads to immediately review (with an eye toward suspending, revising, or rescinding) all regulatory actions taken during the previous four years that may be inconsistent with a sciencebased approach. This includes nearly all of the Trump-era regulations undermining the ESA, NEPA, and the MBTA. On the same day, President Biden temporarily halted oil and gas activity in ANWR, the first step toward fulfilling his campaign promise to permanently protect the refuge.

One week later, President Biden signed another order that established a bold vision for conserving habitat vital to the preservation of biodiversity. The policy, known informally as "30x30," calls for the permanent protection of 30 percent of the nation's undeveloped lands and waters by 2030. This ambitious goal emerged from a growing scientific consensus that swift, transformative action is needed to prevent potentially catastrophic species extinction and ecosystem collapse that would imperil not only wildlife but also human survival. The order also created the Civilian Climate Corps, a jobs program designed to conserve public lands, protect biodiversity, and address climate change.

Taken together, these initial actions signal that the preservation of wildlife and its habitat is no longer seen as merely an inconvenience or burden; rather, it is rightly considered an imperative for the sake of our planet, economy, and way of life.

As promising as these early actions are, there are many more opportunities for the administration to effect rapid change and lay the groundwork for substantive progress. AWI submitted a letter to the presidential transition team before the inauguration laying out our vision for what could and should be accomplished for animals in the administration's first 100 days. For wildlife, these urgent actions primarily involve rolling back the harmful policies of the previous administration.

For example, the rules promulgated to undermine the ESA and NEPA should be swiftly reversed to return those laws to their full efficacy. Unscientific decisions made about specific ESA-listed species and their habitats should also be revisited, including returning federal protections to gray wolves and reinstating the release of captive red wolves into protected areas.

The new administration can also quickly undo certain barbaric and dangerous hunting policies pursued by the previous administration. It should reissue the order prohibiting the use of toxic lead ammunition and fishing tackle on USFWS lands. It should also reverse the rule allowing brutal hunting practices such as killing black bears and wolves with cubs in their dens in national parks and preserves in Alaska, and scrap another rule that would have permitted baiting of brown bears within an Alaskan national wildlife refuge. The Biden administration also has an opportunity to rescind a Trump-era policy that relaxed the rules governing the importation of trophies of elephants, lions, and bonteboks (an endangered antelope species) from certain African countries, which would reestablish a transparent and structured system for analyzing import permits.

Internationally, there is significant conservation work to be accomplished with foreign partners. The United States should immediately rejoin, enforce, or ratify treaties vital to promoting the health and survival of marine and terrestrial species, including the Convention on Migratory Species, the Convention on Biological Diversity (CBD), and the UN Convention on the Law of the Sea. The 30x30 policy can be enhanced by making it a diplomatic priority and advocating for it at the CBD's fifteenth meeting of the Conference of the Parties next year.

Wildlife trade is another area of opportunity, particularly because the United States is responsible for 20 percent of the global trade. As we have tragically witnessed over the past year, the trade in wild animals threatens not only species survival but also public health, with increased interactions between humans and animals creating prime conditions for the transmission of deadly new diseases. To combat this, the United States should support efforts to adopt a new protocol to the UN Convention against Transnational Organized Crime that covers wildlife trafficking.

The actions outlined here are merely first steps. President Biden's early executive orders (which included having the United States rejoin the Paris Agreement on climate change) are heartening, but it will take an ongoing record of truly courageous leadership to adequately confront the alarming crises that wildlife and the planet face. AWI will continue to advocate for comprehensive solutions that combat both the suffering and population declines that wildlife face.

#### POSITIVE PROVISIONS FOR ANIMALS IN 2021 SPENDING BILL

The lights were just about to be turned out on 2020 when Congress finally wrapped up its spending bill for the 2021 fiscal year, which had begun on October 1. Thanks to the hard work of the many members of Congress who support animal welfare, the \$1.4 trillion omnibus appropriations bill included a substantial number of important provisions benefiting animals, such as the following:

- → The US Department of Agriculture must ensure that Animal Welfare Act (AWA) inspectors document each instance of noncompliance and that online dealers who sell animals to consumers sight unseen are licensed and inspected.
- → The USDA must lift the stay on a rule requiring facilities regulated by the AWA to have plans for the care of their animals in the event of an emergency.
- → The USDA must work with livestock producers who wish to voluntarily develop disaster plans in order to prevent livestock deaths and injuries.
- → The Food Safety and Inspection Service must ensure that all inspection personnel receive training in the agency's humane handling regulations.
- → The USDA is prevented from licensing dealers who sell dogs and cats acquired from random sources for use in experiments.
- → The Department of Veterans Affairs must submit a plan by the end of 2021 for reducing or eliminating the use of dogs, cats, and nonhuman primates in the department's research by 2025, and the Food and Drug Administration is encouraged to use nonanimal testing methods on new drugs.

- → A program that helps fund shelter and transitional housing services for survivors of domestic violence and their companion animals received \$2.5 million—an increase over fiscal year 2020.
- → The Horseracing Integrity and Safety Act, which ends the dangerous reliance on performance-enhancing drugs, was incorporated into the bill.
- → The USDA received more than \$2 million to enforce the Horse Protection Act (HPA) and curb soring of Tennessee walking horses, and was urged to audit HPA enforcement and end its failed system of industry self-policing.
- → Congress extended the ban on the slaughter of horses for human consumption in the United States by blocking the use of federal funds to inspect domestic horse slaughter plants and horsemeat.
- → The bill protects wild horses and burros under the authority of the Bureau of Land Management and the US Forest Service from being destroyed for commercial purposes, such as sales to foreign slaughterhouses.

- → The US Fish and Wildlife Service (USFWS) must ensure there are adequate state management plans in place before delisting any species under the Endangered Species Act and must establish a system to ensure the strict enforcement of those plans.
- → Research and conservation efforts protecting critically endangered North Atlantic right whales received \$5 million, supporting a pilot program to develop innovative lobster gear aimed at reducing entanglement and supporting the Marine Mammal Commission's oversight capacity and emergency response for marine mammals in distress.
- → The bill contained a number of provisions addressing wildlife trafficking and trophy hunting, the relationship between wildlife exploitation and the transmission of zoonotic diseases, and trapping. With reference to trapping, the USFWS must brief Congress on its implementation of a pilot program to replace the use of body-gripping traps with nonlethal methods and equipment on national wildlife refuges.



A North Atlantic right whale known as Sawtooth surfaces for a quick breath. Most members of this endangered species— Sawtooth included—have been entangled in fishing gear at least once in their lives.

#### ANIMAL WELFARE MEASURES IN THE 117<sup>TH</sup> CONGRESS

The 117<sup>th</sup> Congress got underway in January, and a number of AWIsupported animal welfare bills were reintroduced within the first few weeks. Among them are the Preventing Future Pandemics Act, which would prohibit the import, export, and interstate trade of live wildlife for human consumption in the United States and support diplomatic measures to curb live wildlife trade and consumption abroad. The Big Cat Public Safety Act (HR 263) would prohibit private individuals from possessing lions, tigers, leopards, cheetahs, jaguars, cougars, or any hybrid of these species as pets, and prohibit public petting, playing with, feeding, and photo ops with cubs. Finally, the Horse Transportation Safety Act (HR 921) would prohibit the use of unsafe doubledeck trailers-designed for much shorter animals such as cattle and pigs-to haul horses in interstate commerce.

#### ZOONOTIC DISEASE TRANSMISSION ADDRESSED IN STIMULUS PACKAGE

The American Rescue Plan Act, signed on March 11 in response to the COVID-19 crisis, contains funding to address public health risks resulting from the exploitation of animals. The law allocates \$300 million to the US Department of Agriculture for monitoring animals susceptible to the virus, and AWI is advocating that a portion of those funds be used to collect data on US fur farms, an industry that operates with woefully little oversight



or accountability. (See page 14.) The law provides \$95 million to the US Fish and Wildlife Service for various purposes, including wildlife inspections, the care of rescued and confiscated wildlife, and early detection of wildlife disease outbreaks before they jump the species barrier. The State Department and the US Agency for International Development have been allocated \$10 billion for global COVID response activities, and AWI is advocating that a portion of those funds be used to address inhumane and potentially dangerous practices such fur farming and the trade in live wildlife.

#### NOAA PROPOSES RULE TO CURB RIGHT WHALE DEATHS

After years of delay, NOAA Fisheries released a proposed rule in December 2020 to reduce the number of North Atlantic right whales killed by gear in northeast lobster and Jonah crab fisheries. More than 900,000 buoy lines are used by these fisheries, creating a lethal gauntlet through which whales must navigate. Tragically, 85 percent of North Atlantic right whales bear scars from entanglement in gear, and over half have been entangled at least twice.

Unfortunately, the rule-based on an outdated population estimate—falls short. NOAA's proposed measures would achieve only a 60 to 69 percent reduction in risk of right whale mortalities versus the 80 percent reduction recommended by the Marine Mammal Commission. The rule also emphasizes a costly transition for fishers to weaker rope. While this gear might allow adult whales to break free if entangled, it leaves lines in the water, it is not proven to protect younger whales, and does not take into account the long-term health effects on whales from any form of entanglement.

AWI submitted technical comments urging NOAA to redraft this rule using the most up-to-date science and to immediately implement emergency protections for this critically endangered species. We also rallied our supporters to speak up for right whales, generating thousands of comments submitted to NOAA through our action alerts.

# NATIONAL ACADEMIES ACADEMIES REPORT IS A POSITIVE STEP TOWARD END OF SORING

The Horse Protection Act (HPA) was enacted in 1970 to clamp down on the scourge of "soring"—the term for a host of abusive practices inflicted upon Tennessee walking horses and related breeds to produce an exaggerated high-stepping gait known as the "big lick" for certain competitions and shows.

Unfortunately, over 50 years later, soring still persists—in large part because of inadequate enforcement and an ineffective self-policing system. The current inspection regime is the quintessential case of the fox guarding the hen house: Although the US Department of Agriculture does some inspections, it largely relies on "designated qualified persons" (DQPs), who are employees of the organizations that host shows and are often exhibitors of Tennessee walking horses themselves, to find evidence of abuse. Not surprisingly, a 2010 USDA inspector general investigation found that this model presents a "clear conflict of interest" and recommended abolishing the DQP program. Unfortunately, the USDA has continued relying on DQPs to inspect horses.

On January 13, the National Academies of Sciences, Engineering and Medicine (NASEM) released a long-awaited report: A Review of Methods for Detecting Soreness in Horses. Among the NASEM's recommendations were that use of DQPs for inspections be discontinued and that only veterinarians inspect horses at shows for soreness. The report also emphasized the importance of physical exams and manual techniques such as palpation to discern pain and inflammation as evidence of soring. Other recommendations



include instituting random drug testing and using thermography—an imaging technique that veterinarians use to detect inflammation—during inspections.

The NASEM report offers yet another promising sign that those trainers and owners who abuse horses are on borrowed time. AWI has long championed the Prevent All Soring Tactics (PAST) Act, which would strengthen the HPA, end the failed system of industry self-policing, ban the use of devices associated with soring, increase penalties, and make illegal the actual soring of a horse. The PAST Act overwhelmingly passed the House of Representatives in 2019, with 333 lawmakers voting in favor of the bill. However, it was not taken up by the Senate.

Similarly, a regulatory route may offer a solution to ending soring. In the waning days of the Obama administration, the USDA moved to establish an HPA rule that would have accomplished the goals of the PAST Act. However, the Trump administration immediately froze the rule. As indicated in the chart on the following page, our analysis of USDA records found that HPA enforcement plummeted under the Trump administration. In fiscal year 2016, for example, the USDA issued 956 warnings for HPA violations; two years later, the number had dropped to zero warnings issued.

Earlier this year, AWI raised the need to reissue the nearly finalized HPA rule with the Biden administration's transition team. Over 200 members of Congress have written in favor of finalizing it, and—with Secretary Vilsack's return—we are hopeful that it will be. We will continue working with the administration and federal lawmakers to either finalize the rule or pass the PAST Act so that horses no longer suffer this abuse.

# USDA URGENTLY NEEDS UPWARD TRAJECTORY IN ENFORCEMENT OF ANIMAL PROTECTION LAWS

Once again, we are forced to highlight the abysmal state of enforcement of the Animal Welfare Act (AWA) and the Horse Protection Act (HPA) in recent years. As made plain by the graphs on this page, the US Department of Agriculture has all but abandoned its duty to protect animals under these vital laws. We hope that there will be better news to report from the new administration, but first we want to acknowledge the huge task newly appointed Secretary of Agriculture Tom Vilsack and his staff have ahead of them if they are to address this (in addition to the steps they should take to correct course on farm animal welfare issues—see page 4).

The graphs below provide a detailed look at enforcement by the USDA over a seven-year period. From 2016 to 2020, there was a 67 percent drop in the number of AWA inspections where citations were documented. New investigations plunged by nearly 90 percent over this period. Under the HPA, there have been zero warning letters, zero new investigations, and just one administrative complaint since 2018. And it's important to note that even though the USDA was undoubtedly limited in how it functioned during COVID-19 over most of 2020, the absence of enforcement activity during that period is scarcely different from the non-activity that prevailed in the years and months immediately preceding the pandemic.

A sea change within the department is desperately needed. It should begin with staff who have been operating under a mandate during the Trump administration to support industry by turning a blind eye toward the overwhelming majority of noncompliances. Secretary Vilsack needs to convey that the new mandate is for solid enforcement

1000 800 600 400 200 0 FY14 FY15 FY16 FY17 FY18 FY19 FY20 • new investigations • warning letters

#### Number of Horse Protection Act Enforcement Actions

of both the AWA and the HPA. Inspectors must be given autonomy and encouragement to do their work without being micromanaged.

In addition, the USDA needs to engage in a process to restore the many enforcement tools that have been dismantled in recent years, including the inspection guide (used by inspectors), the policy manual (which provides key supplemental explanations of the regulations), reliance on unannounced inspections, and, with respect to HPA enforcement, adoption of the horse soring rule that was prepared during the Obama administration. (See previous page.) These changes would begin to restore the integrity of the program, and must begin with all due haste.







Number of Animal Welfare Act Enforcement Actions

In a remarkable new study, cuttlefish passed a version of the marshmallow test—choosing to leave an easy treat untouched so they could receive a highervalue treat later.

#### CUTTLEFISH SHOW COGNITIVE COMPLEXITY

In a landmark new study, scientists have shown that cuttlefish are capable of delaying gratification, and that those who choose to delay longer are also more intelligent (Schnell et al., 2021). Cuttlefish are only the third speciesafter humans and chimpanzees—in which a link between self-control and intelligence has been shown. In an adapted version of the famous Stanford marshmallow test (in which children choose between one marshmallow now or two if they can wait), most cuttlefish chose to wait 50–130 seconds to receive a higher-value treat rather than consuming a lower-value treat immediately. Those willing to delay longer were also quickest at learning a discrimination task. This is yet more evidence that cuttlefish, along with other cephalopods, are cognitively complex. These animals deserve legal protection if used for experimentation.

#### NEW SYSTEM ALLOWS NONINVASIVE STUDY OF FREELY MOVING MACAQUES

animals in laboratories

Researchers at the University of Minnesota have developed a motioncapture system that allows for the markerless 3D tracking of free-moving macaques (Bala et al., 2020). The new technology, called OpenMonkeyStudio, can accurately detect the poses and social interactions of two individuals as they move unconstrained within a 9' × 8' × 8' enclosure. This new deep learning system is an important advance over existing behavior tracking systems, which either rely on markers or have



only 2D tracking capabilities. Macaques commonly show discomfort when fitted with jackets or bodysuits for tracking purposes; this causes them to move in constrained and unnatural ways. Other small, spherical markers are difficult to attach to macaques because of the animals' long, thick fur; in addition, macaques are naturally curious and tend to remove any markers with their agile hands. While markerless 2D tracking systems are appropriate for some species, such as worms or mice, macagues adopt a much wider range of distinctive poses by moving through space in a fundamentally threedimensional way. This new technology, which uses multiple cameras that reconstruct a full set of 3D movements using 13 joints as body landmarks, is thus less invasive and can yield more accurate data when used to track macaques for research purposes.

#### LETTING ANIMALS CONTROL THE REMOTE

A common feature of captive environments is that they deprive individuals of agency—that is, they constrain individuals' ability to make decisions and exercise control over their environment. Agency is recognized as an important component of good welfare. However, animals rarely have control even over features designed to improve their welfare, including video or audio environmental enrichment.

In new research by scientists in Finland (Hirskyj-Douglas & Kankaanpää, 2021; Piitulainen & Hirskyj-Douglas, 2020), white-faced saki monkeys were provided with sights and sounds that they could choose to control themselves. A tunnel-shaped structure equipped with sensors and a monitor or speakers was placed inside the monkeys' enclosure. The device would play different videos or sounds (alternated weekly) only if a monkey chose to enter the tunnel. The monkeys used the video enrichment approximately five times per day in the study, with highest usage in the early morning. The sakis preferred watching earthworms in soil, a bowl of mealworms, and underwater fish over videos of forest, wild animals, abstract images, or no video. They had a strong preference for the sounds of traffic and silence over sounds of rain or electronic or zen music. This concept of "on-demand" enrichment is simple and effective and can readily be adapted to other species.

## Tens of Millions of Animals in Research Are Unprotected

I n the United States, the number of rats and mice used each year for experimentation, testing, and teaching is shrouded in secrecy. The current industry estimate, as reported in *Science*, is somewhere between 10 and 25 million. However, a new calculation based on data collected from 16 large American research facilities has been offered by Dr. Larry Carbone in *Scientific Reports*. In his January 12 paper, Carbone suggests that the actual number is closer to 111.5 million (more than 99% of the total animals used) and that about 44.5 million of them underwent potentially painful experiments.

Carbone's paper calls attention to a gaping hole in the Animal Welfare Act (AWA), the primary federal law for the protection of animals in research: It excludes rats and mice (as well as birds). A 1970 amendment expanded the law to "all warmblooded animals determined by the Secretary of Agriculture as being used or intended for use in experimentation." However, the regulations for its enforcement, finalized the next year, excluded rats and mice, even though these animals were acknowledged to be the most commonly used. The USDA believed it lacked the staff and money to monitor rats and mice, so it would have to be addressed at a later date. But it wasn't. Finally, in 2000, the USDA settled a lawsuit over this by agreeing to begin the process of extending AWA coverage to rats, mice, and birds.

Most lab personnel supported this expansion: A survey by Plous and Herzog (1999) found that 74 percent of researchers and Institutional Animal Care and Use Committee members believed that rats and mice should be covered by the AWA. A few years later, Dr. Harry Rozmiarek conducted an informal poll of experienced laboratory animal veterinarians and found that 73 percent felt it was not appropriate to exclude these animals from the law. Over time, many research organizations and some pharmaceutical companies also suggested they were not opposed to the inclusion of rats and mice. A few research leaders even embraced the idea and turned their attention to how the job might be accomplished, with one prominent individual suggesting a phase-in of different types of facilities over time.

But animal research lobbyists kept fighting in court and making Chicken Little arguments about vital research being costed out of existence (despite the reality that only substandard labs would be expected to incur costs). Ultimately, they found a champion in Senator Jesse Helms who, without a single congressional hearing on the subject, secured a narrower definition of animals covered under the AWA as part of the 2002 Farm Bill. Rats of the genus *Rattus*, mice of the genus *Mus*, and birds bred for use in research were thereby excised from the law itself, not just ignored in its regulations.

Some in the industry have suggested that the National Institutes of Health (NIH) and AAALAC International (an accrediting body) already monitor the treatment of rats and mice in research. But both the NIH and AAALAC have inherent conflicts of interest regarding this issue. The NIH funds the animal experimentation it claims to monitor, while research facilities pay AAALAC for accreditation. The NIH has just three staff tasked with "overseeing" compliance at nearly 1,500 facilities, while AAALAC conducts scheduled site visits only once every three years. Thus, the USDA is uniquely suited to handle this responsibility.

If rodents were covered under the AWA, the actual number in use would be reported just as it is for other warm-blooded animals in research, and the animals would benefit from its protections regarding their housing, handling, veterinary care, transportation, and use (including consideration of alternatives to any potentially painful procedures). Researchers using them would also be subject to the USDA's unannounced compliance inspections. This change in the law is decades overdue.









#### WILD RITUALS

Caitlin O'Connell / Chronicle Prism / 264 pages

Wild Rituals: 10 Lessons Animals Can Teach Us About Connection, Community, and Ourselves is an entertaining and educational book by Dr. Caitlin O'Connell, an elephant scientist and behavioral ecologist. O'Connell's premise is that humans can learn from animals to improve the way we interact with each other. She describes animal rituals involving demonstrations of affection, anger, love, shyness, embarrassment, pity, grief, and other emotions and shows how animal behaviors and emotions mirror those of humans. But O'Connell expands on this comparison to explain how we can look to animals for guidance on how to interact in order to grow intellectually and understand each other and our environment better. She uses examples from her specialtyelephants she has studied in Etosha, Namibia, for 30 yearsand from other animals, including whales, apes, zebras, fish, lions, flamingos, and even Galapagos tortoises.

Moving, engaging, and sometimes humorous animal behaviors are examined in a variety of situations. O'Connell recounts, for instance, a young male zebra greeting ritual around a watering hole, where they vocalize, then nuzzle, wrap necks, and nip before displaying exaggerated chewing behavior and teeth baring, culminating in a ceremonial mass defecation on the recent excretion of the herd's dominant male. O'Connell describes highly coordinated group activities, from giant tarpon fish working together to enclose anchovies before a feast, to humpback whales organizing to create bubble circles in Alaska to corral salmon, herring, and other fish. She discusses Caribbean flamingo courting rituals-which she likens to square dancing in humanswhereby entire flocks engage in synchronized marches, beaks upright, until they pair off, with the most elegant and upright males first (thus perpetuating the "elegant strutting" gene). She reflects on animal grieving rituals that are often very similar to those of humans—especially so in our close relative, the chimpanzee.

Elephants feature throughout the book, from vocalizations to denote the very human "let's go" rally cry, to unspoken rituals where olfactory senses are key to communications. *Wild Rituals* is a fluid read, filled with personal stories and examples of human and animal behaviors witnessed during O'Connell's travels and studies across several continents.

#### THE ONE AND ONLY WOLFGANG

Steve Greig, Mary Rand Hess (authors) and Nadja Sarell (illustrator) / Zonderkidz / 32 pages

What do nine senior dogs, a rabbit, a chicken, a pig, and an accountant have in common? They are the Wolfgang—the coolest family in town!

Grieving the loss of his beloved miniature pinscher Wolfgang, Steve Greig begins rescuing elderly, unwanted, "unadoptable" dogs, welcoming them into his Colorado home, and giving them a new lease on life. When he reaches nine, he decides his family is complete (to him, 10 dogs feels like too many, but eight just aren't enough). Along the way, Greig also takes in Stuart the rabbit, Betty the chicken, and Bikini the pig—and together, they become the inseparable, incomparable, one and only Wolfgang.

This heartwarming children's book (perfect for ages 4–8) chronicles the adventures of an unusual, fun-loving collection of animals (human and nonhuman) with one thing in common: They are a family. *The One and Only Wolfgang: From Pet Rescue to One Big Happy Family* is coauthored by Greig and *New York Times* bestselling author Mary Rand Hess, with rollicking illustrations (drawn around real photos) by Nadja Sarell and a foreword by Jodi Picoult (another *New York Times* bestselling author). The book teaches kids (and the rest of us) that families come in every shape and size, and that family means love, acceptance, and forgiveness. In the Wolfgang, it also means respecting who eats first, who eats last, and who eats the most.

Greig's inspiring story also reminds us that, when it comes to canine family members, old is cool, too. All too often, senior dogs in need of a family are passed over by those seeking puppies or young animals. While they may not have as much time left, older dogs have just as much love to give and joy to share—and personalities big enough to fill hearts and homes. (Just don't expect them to leave much room on the couch for movie night.)

You can see more of the Wolfgang on Instagram @wolfgang2242.

#### **CELEBRATING BIRDS**

Natalia Rojas, Ana Maria Martinez, and the Cornell Lab of Ornithology / Harper Design / 351 pages

If you have been searching for an engaging new hobby to help you recover from the COVID-19 doldrums, *Celebrating Birds: An Interactive Field Guide Featuring Art from Wingspan* is an ideal entry point into the world of birdwatching. In the past year, the popularity of bird watching has soared as people have looked for new ways to get out of the house and explore the world around them in a safe, socially distanced way. As spring begins, and legions of birds begin to return to our neighborhoods and open spaces for breeding and nesting season, now is the perfect time to pick up a field guide to help you identify the birds that you see on your outdoor excursions.

*Celebrating Birds* is an accessible, engaging guide to the birds of North America, with lovely, hand-drawn illustrations first featured in the popular board game *Wingspan*. This book is ideal for children in middle and high school, as well as adults who are new to birding. Each of the 181 entries contains interesting information on the species' lifecycle and habits, as well as a "cool fact" that would expand the knowledge of even expert birders. This guide also contains a fun birding challenge, which is a perfect way to entertain younger members of the family.

Notably, the illustrations primarily depict the males of each species, so identifying a female of a species with significant differences in plumage between the sexes may be difficult or impossible using this guide. Moreover, if you are trying to identify a species based on nests or eggs, you will need to look elsewhere. Regardless, this beautiful guide should provide all levels of birdwatchers with insight and a new perspective on the fascinating bird species that call North America home.

#### 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.



Non-Profit Org. US Postage **PAID** Washington, DC Permit No. 2300

f facebook.com/animalwelfareinstitute

🌶 @AWIonline 🛛 @AWIonline



#### **TEXAS STORMS BRING MISERY TO HUMANS AND ANIMALS**

February saw a rare winter storm hit southern US states, including an unprecedented blackout that caused multiple human and animal deaths. In Texas, the storm affected natural gas plants and pipelines, nuclear power facilities, coal-fired power stations, and wind turbines. In a state unused to (and grossly unprepared for) such extreme and persistent cold weather, the result was widespread power outages, burst pipelines, and water shortages.

On top of the infrastructure and human casualties, the prolonged period of subfreezing temperatures combined with a reduction in food supplies affected several wild and domestic species, including large numbers of bats found perished in tunnels, hundreds of dead fish washed up on shores, pets left outside during the bitter cold, and imported non-native animals accustomed to warmer temperatures succumbing to the cold. Countless farm animals died: One Texas company reported the loss of over 1 million chickens.

Approximately 4,500 green sea turtles, stunned by the cold, washed up on South Padre Island at the southeastern tip

of Texas. A local nonprofit group, Sea Turtle, Inc., stepped in to coordinate the rescue effort, with support from AWI and others. Volunteers carefully gathered the turtles and transported them to the Island Convention Center, which had been organized and equipped as an emergency rescue center. There, the animals were allowed to warm up and rehabilitate before being released back into the Gulf of Mexico.

Less fortunate were some of the primates and other animals at a sanctuary outside San Antonio. The facility, which houses over 300 rescue animals, lost power for four days, resulting in the deaths of several inhabitants, including a chimpanzee, monkeys, lemurs, and birds.

Spurred on by climate change, severe weather events—dubbed by one *National Geographic* writer as "man-made natural disasters"—are becoming more common (and more severe) throughout the world. Acknowledging this, we must anticipate and become better prepared for such events in the future. Better yet, we must curb activities that contribute to them in the first place. **&** 

SANJUANA ZAVALA/SEA TURTLE, INC.