



Animal Defenders International

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Dr. Barbara Kohn Senior Staff Veterinarian
Docket No. APHIS-2006-0085
Regulatory Analysis and Development PPD, APHIS
Station 3A-03.8 4700 River Road, Unit 118
Riverdale, MD 20737-1238

Via Federal eRulemaking Portal at [http:// www.regulations.gov](http://www.regulations.gov).

RE: **Docket ID:** APHIS-2006-0085, USDA APHIS proposed rulemaking concerning captive marine mammals

Dear Dr. Kohn:

[Animal Defenders International](#) (ADI) offers the following response to the USDA call for public comments regarding Docket APHIS-2006-0085, concerning rulemaking for captive marine mammals. We also include and incorporate by reference, the May 3, 2016 submission on this docket by Dr. Naomi Rose of the Animal Welfare Institute (“AWI”), on behalf of AWI, ADI, Born Free Foundation, Born Free USA, the Center for Whale Research, Cetacean Society International, In Defense of Animals, the International Marine Mammal Project, Kimmela Center for Animal Advocacy, Marine Connection, Orca Research Trust, People for the Ethical Treatment of Animals, Whale and Dolphin Conservation, and Zoocheck, in a joint statement (“Joint Statement”). Thank for your consideration of these complex species, and for the opportunity to comment.

At the outset, we must be clear, and reiterate that marine mammal captivity is itself inhumane, and contrary to current best science for these complex species. ADI wholly opposes marine mammal captivity, including feeding/petting and interactive programs, especially so-called therapeutic interactive programs, which continue without scientific basis, to harm animals and mislead vulnerable people looking for real answers to particular health issues.¹ In a nutshell, these species have evolved and are designed to live across many kilometers in environs that cannot be practically or cost effectively replicated by humans in the captive marine mammal entertainment industry business model. While we can attempt rulemaking to try to appease current suffering in proportionally tiny, barren, artificial (often over-lit and intemperate) environments, typically outsized in even the “best” parks by their own parking lots, the only real solution to address their welfare, and long-term survival of the species in the wild, is turn our attention away from our use of them as a commodity to entertain humans, toward science-based conservation of wild populations in situ. Thankfully, there has been some movement to recognize this reality, and ADI fully supports the ORCA Act (HR4019, sponsored by Representative Schiff), among other similar bills addressing marine mammal captivity, including that in the state of California (sponsored by state Representative Bloom). However, so long as we continue to permit such facilities - despite science’s clear message we’re wrong to do so - we can at minimum offer some data to support improved conditions.

The Federal Register Notice for Docket APHIS-2006-0085 (“Notice”) identifies the purpose of this long-overdue rulemaking is to review and revise regulations set down some 20 years² ago “written in a very general way because APHIS had few relevant scientific studies or data available to help design the

most effective practical regulatory approach,” noting the availability of growing data and citing its “substantial experience working with regulated parties.” Other provisions, notably those regarding interactive “swim-with-the-dolphin” programs **have not been enforced in 17 years**. Even now, it appears from the Notice that remarkably little new scientific data has been considered in developing these changes, despite its abundant emergence over that timeframe. In fact, knowing what we now do about these species, we are stunned that there is no intent to consider improved space requirements, or for that matter, to even begin a discussion or review of the idea of captivity and captive breeding generally. Moreover, there is a disturbing emphasis upon the regulated parties, to ‘ease their burdens’ or create or continue variances through industry practice, here and around the world, already typically requires more than current *Animal Welfare Act* (AWA) regulations for marine mammals. Industry convenience is not relevant to the AWA. Rather, USDA’s focus should be as the AWA mandates, to ensure the humane care and treatment of animals in exhibition.³

JOINT STATEMENT. In the Joint Statement, ADI joins AWT’s extensive and thorough analysis of the current state of marine mammal captivity, the law, the science, the industry, and where we should be headed. In short, ADI underscores and highlights its main points again here:

- Expansive, available, current, peer-reviewed research must be reviewed and incorporated into the rulemaking and its enforcement (including that provided with the Joint Statement).
- USDA’s mandate under the AWA is not to minimize industry costs, renovations, or burdens, but to ensure the animals’ humane care and treatment, consistent with the best available science.
- Standards should be quantitative and measurable to enable consistent enforcement and understanding between regulators, inspectors, and regulated parties. Qualitative, subjective, performance-based standards should be avoided, as they are difficult to interpret, apply, and enforce.
- APHIS must consult with the National Marine Fisheries Service with regard to Lolita, per its duty under §7 of the *Endangered Species Act* and 50 C.F.R. § 402.14.
- The omission to ignore space requirements is stark and unfounded. It is impossible to meet § 3.104(a) requirements for any captive marine mammal; regardless, current standards are three decades old, completely arbitrary, beyond inadequate, and frankly, unacceptable. Minimum space requirements must be reviewed and addressed with science-based increases. USDA must not take any action that would, directly or indirectly, decrease the current minimum space requirements.
- Variances for minimum space requirements are unnecessary and unfounded, unless consideration is made to revisit and update current requirements; even so, such variances must include a time-limit deadline so they do not become permanent.
- Habitat (dry and water) temperatures and lighting schemes should reflect an animal’s native environment; with requirements delineated in a quantitative, science-based manner.
- Shelter and shade considerations must consider that captive species cannot respond as they do in the wild (e.g. animals cannot dive to escape sunlight).
- Quantitative, science-based noise thresholds should be established for each species. Noise issues must be analyzed and addressed quantitatively, incorporating in-air noise calculations as well, given the animals’ significant surface time.
- Hemochromatosis in captive bottlenose dolphins should be treated with increased space to allow deeper diving (ranging from <1m to at least 6m) and husbandry training to include multi-minute breath holding.
- Pool surface area for pinnipeds should be at least equal to the dry resting or social activity area provided.
- Sea otter pools should permit rafting.
- Mandatory bacterial testing should be established for *Enterococci*, *Pseudomonas*, and *Staphylococcus*, as should quantitative standards for additional chemicals, especially chlorine, copper, ozone, nitrates, and ammonia.
- There should be no exemptions to § 3.106(c)(1) (requiring salinated water), except perhaps for the river dolphin (a fresh-water species).

- Traveling marine mammal acts, interactive programs, and feeding/petting programs should be prohibited.
- We are opposed to the change to qualitative employee training standards and participant ratios, and the proposed time increase for dolphin interactive programs, as contrary to the agency’s mandate to ensure humane treatment of animals.
- Provisions should be added to require enrichment consistent with animals’ activity cycles. Currently, enrichment is practically non-existent – profoundly inadequate; environments are barren and minimal enrichment, if provided at all, are per staff schedules, not accounting for nocturnal activity of some species.
- Provisions should be added to require retreat space for all marine mammals.

* * *

In addition, ADI offers the following comments.

CURRENT OVERSIGHT IS LACKING. AWA’s mandate for the humane treatment of animals is its central focus, and animal exhibitions were included at least in part due to legislative hearing testimony documenting inhumane conditions at such events.⁴ The AWA mandates USDA **shall not grant licenses “until the dealer or exhibitor shall have demonstrated that his facilities comply with the standards promulgated by the Secretary.”**⁵ Its implementing regulations demand annual review and certification of compliance.⁶ However, internal and external reviews have raised questions as to the efficacy of current oversight into facility conditions or compliance.⁷ For example, the NYC Bar, Committee on Animal Law noted, in its letter urging agency action consistent with its AWA mandate, that license renewal applications do “not appear to implement substantive standards or include an inquiry into the compliance history of applicants.”⁸ One 2013 court cites the agency’s argument that license renewals are merely “automatic, ‘rubberstamping’ type transactions.”⁹

The renewal process for AWA licenses does not include a review of public complaints. License renewal is not contingent on a determination that the licensee has met the standards for animal handling, care and treatment, or is or has been in compliance with regulations other than the regulations governing license renewal.¹⁰

[T]here is no demonstration of compliance required to renew an existing license.¹¹

Another USDA veterinarian cited in the NYC Bar letter, reviewing an exhibitor license for *Marine Exhibition Corporation, Inc.*, declared that the “AWA does not reference license renewals,” implying the agency takes the position AWA standards don’t apply there.¹² We disagree (as did that court). This position is absolutely contrary to the agency’s AWA mandate to require licensees demonstrate continued compliance, before renewals may issue. Per 9 C.F.R. § 2.1(e), the “failure of any person to comply with any provision of the Act, or any of the provisions of the regulations or standards in this subchapter, shall constitute grounds for denial of a license.” Moreover, a “license may be terminated **during the license renewal process or at any other time** for any reason that an initial license application may be denied pursuant to § 2.11 after a hearing in accordance with the applicable rules of practice,” which reasons include violations of federal, state, or local laws, in addition to AWA violations.¹³ One willful violation is grounds for immediate revocation, as are those, which threaten the public health, safety, or interest.¹⁴ Willful violations include: “notorious neglect of explicit provisions of law;” “intentional, or knowing, or voluntary” conduct; and “careless disregard whether or not one has the right so to act.”¹⁵ Even where a violation isn’t willful, USDA is authorized to revoke licenses, under 9 C.F.R. §2.12 and 9 C.F.R. §2.1(e) - “The failure of any person to comply with any provision of the

Act, or any of the provisions of the regulations or standards in this subchapter, **shall constitute grounds for denial of a license; or for its suspension or revocation** by the Secretary” (emphasis added). USDA can and should temporarily suspend licenses where it has “reason to believe” there is “threatened physical harm to animals,” even if the violation has not yet taken place.¹⁶ USDA also has the power to confiscate animals ““found to be suffering” in violation of the AWA or its implementing regulations.¹⁷

We urge that the agency not only develop regulations based upon the best available science, but also that it implement, administer, and enforce such regulations, pursuant to its mandate under the AWA. Without the teeth of consistent enforcement, laws and regulations mean nothing. These enforcement issues also underscore the import of clear, quantitative regulations moving forward.

* * *

EDUCATION AND CONSERVATION CLAIMS ARE UNSUPPORTED. Despite widespread industry claims, educational and conservational benefits of marine mammal captivity and captive breeding remain unproven.

The zoos and aquariums were therefore effectively self-regulating and self-evaluating their educational and conservation outputs.¹⁸

[T]o date there is no compelling or even particularly suggestive evidence for the claim that zoos and aquariums promote attitude change, education, and interest in conservation in visitors.¹⁹

[T]here is no compelling or even strongly suggestive current evidence that visits to zoos and aquariums promote positive attitude change, learning or conservation actions.²⁰

In a 2005 report regarding marine mammals, UNEP acknowledged that:

In recent years, the ethics of capturing and maintaining marine mammals in captivity have increasingly come into question by the scientific community. Scientific evidence indicates that cetaceans in captivity experience mental and physical stress, which is revealed in aggression between themselves and towards humans, and a lower survival rate and higher infant mortality than in the wild.

...

Methods used to transport cetaceans can be cruel and many individuals have died as a result of injury and stress in attempts to supply captive facilities around the world.

...

whales and dolphins continue to be taken from wild populations to supply the demand created by captive facilities and to compensate for their deaths in captivity

...

In addition to the inhumane and occasionally lethal nature of cetacean capture methods, the removal of animals ... may also have a major impact on the viability of the wild population from which they are removed and, potentially, the species as a whole.

...

Swimming with dolphins programs are especially problematic in this regard because female dolphins are often selected for capture. Studies of wildlife populations have demonstrated that removal of females can have serious long-term consequences for the populations from which they are taken.

...

In addressing the promotion of marine mammal public display as a tool for education, research has demonstrated that the benefits cited are largely anecdotal and not supported by systematic sociological analysis.

...

captive interactive programs may significantly distort the public's understanding of the marine environment

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The promotion of physical interaction with captive marine mammals may also encourage visitors to carry out such activities with their wild counterparts, thus impacting negatively on wild populations.

...

It is not uncommon for people to become injured from swimming with captive dolphins. Reports include incidences of broken bones, internal injuries, and serious wounds requiring hospitalization. These programs also present a risk of disease transmission between humans and marine mammals²¹

Furthermore, conservation claims that captive breeding furthers conservation ignore its challenges to rewilding and costs which far exceed in situ operations.²²

[A] direct comparison found that the costs of conserving mammals ex situ often exceeded in situ costs even with intensive protection. Other critical and cost-effective conservation activities can be delayed or overlooked when captive breeding and reintroduction are recommended or undertaken.

...

More seriously, the ecosystems for which these species are adapted may change dramatically in the interim between the establishment of a captive-breeding program and eventual reintroduction.

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the notion of global captive-breeding plans was largely abandoned in the mid-1990s

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Ignoring lessons from the past concerning how and when to employ captive breeding in species conservation risks the failure of recovery programs and, ultimately, the loss of species.

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LEGAL COMMERCIAL TRADE IMPACTS WILD POPULATIONS.

Legal commercial trade in imperiled species risks wild populations, directly and indirectly by fueling and providing cover for illicit trade.

The distinction between specimens that are captive bred (and can therefore be traded legally) and those that are caught in the wild is often difficult to make and hampers enforcement.²³

Removal of live cetaceans from the wild, for captive display and/or research, is equivalent to incidental or deliberate killing, as the animals brought into captivity (or killed during capture operations) are no longer available to help maintain their natural populations.

...

live-capture can become a serious threat to local cetacean populations²⁴

Zoos and dolphinariums around the world often acquire dolphins and other animals through controversial 'drive hunts' such as the infamous hunt at Taiji. NOAA denied a recent application to take beluga whales from Russia, citing among other reasons, the adverse effects of capture on these wild belugas.²⁵ The status of beluga whales is cause for concern; the *Scientific Committee of the International Whaling Commission* concluded in 1999 that only four out of 29 beluga populations are "stable." NOAA is currently accepting comments regarding its consideration to designate the Sakhalin Bay-Nikolaya Bay-Amur River Stock of Beluga Whales as *Depleted* under the *Marine Mammal Protection Act* ("MMPA").

Climate change and its related impacts, trafficking, oil and gas development, over-hunting, over-fishing, vessel traffic, and pollution threaten marine mammal species survival. Despite compelling scientific and moral arguments against their captivity, the legal market still exists. The US should continue to assess its part in this trade, especially where the MMPA still permits the capture of marine mammals from the wild for public display.

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TRAVELING ACTS MUST BE BANNED. There is substantial and growing evidence that even with the best intentions traveling shows simply cannot provide what these animals need and unfortunately, there is a good deal of evidence that physical abuse and deprivation are all too common. The confinement demanded by extensive and repeated travel is harmful and inconsistent with the species-specific care and containment prescribed by the AWA. The *World Association of Zoos and Aquariums* opposes the "keeping and transporting of animals under inadequate conditions, e.g.... roadside zoos or circuses/entertainment."²⁶ A University of Bristol study on the welfare of animals in traveling acts examined peer-reviewed scientific literature on the subject and concluded circus animals are "inevitably impoverished" and stressed.²⁷ The *Federation of Veterinarians of Europe* recommend wild animals cannot tolerate and do not belong in circuses:

There is little or no educational, conservational, research or economic benefit derived from the use of wild mammals in travelling circuses that might justify their use. In addition to the welfare considerations, the use of wild mammals in circuses can represent serious animal health and public health and safety risks.²⁸

The NYC Bar Committee on Animal Law also recommends a ban on the use of wild and exotic animals, including marine mammals impacted under this rulemaking, in traveling acts, noting such acts are inhumane and dangerous to the animals, workers, and the general public.²⁹ Their recommendation notes several reports supporting animals subjected to the traveling performance business model suffer “extreme physical coercion and abuse,” are “detrimental to animal physical and psychological health and welfare,” and that “law enforcement cannot properly monitor violations of animal-related laws due in part to the transitory nature of traveling circuses.”³⁰ A 2010 USDA Office of Inspector General (“OIG”) report identified that for 15% of reviewed traveling exhibitors, “Animal Care inspectors could not perform timely reinspections to ensure that serious noncompliant items that were identified in previous inspections had been resolved.”³¹

These are and will remain wild animals. Domestication cannot be trained into an individual animal; it takes certain genotypes and many generations of breeding an entire population of animals, and even then some species cannot be domesticated.³² There is no conclusive evidence that wild animals habituate to travel and there’s no evidence that familiarity equates to security.³³

Traveling shows’ collapsible and temporary facilities also raise serious public and worker safety and health concerns, which are not currently addressed under federal law, although state and local authorities typically reference federal oversight to appease local safety inquiries. Workers and the public are often in close proximity to these wild animals with limited, if any, protective containment. Unfortunately, there are numerous news reports of worker deaths despite years working and familiarity with the animals. In 2014, the US Court of Appeals DC Circuit upheld a decision that an animal exhibitor employer (SeaWorld) violated the (general duty clause under the) *Occupational Safety & Health Act* by exposing animal trainers to recognized hazards despite the employer’s arguments its trainers were qualified, trained in safety procedures, and familiar with the mammal.³⁴ Circus workers typically have limited if any species-specific training (save perhaps that related to circus tricks), and the local venue operators/workers may have no knowledge of the animals’ needs or history. Families partaking in cruel marine feeding exhibits are not aware of the risk. (See Joint Statement, addendum including photos of injuries to dolphin and child at such an exhibit.) Many of these safety and health issues apply similarly to interactive marine mammal programs, which put animals and humans in close proximity or direct contact, without necessary protections for either.

Federal oversight of traveling animal acts is costly, problematic, and unmanageable. Nominal licensing fees and minimal, inconsistent monetary penalties don’t cover oversight costs; they are largely borne by the American taxpayer.³⁵ Oversight is difficult with the limited number of inspectors and the events’ transitory nature. In 2009, APHIS/USDA had just 97 inspectors who performed over 4300 inspections of more than 2700 exhibitors.³⁶ APHIS’ OIG reports note **numerous inspector deficiencies including limited to no follow-up to noncompliance citations** and failure to consult animal experts to determine if enclosures or barriers are sufficient to protect the public. OSHA inspections generally **rely upon self-reporting alone** and often by the time a complaint or inspection request is made, the circus has moved on to another jurisdiction. It is not uncommon for the agencies to report their hands are tied once the circus leaves town. Regional, state, and local agencies don’t typically have the benefit of cross-jurisdictional communications or authority; not knowing the history of a particular circus or its animals leaves little context to frame a one-time likely expected look-see. All too often local authorities lacking familiarity or facilities to deal with exotic species defer upstream to federal agencies that nevertheless maintain public safety is not their mandate. Local animal control officers typically don’t have the knowledge, facilities, or the funding to evaluate, confiscate, or otherwise deal with exotic animals such as polar bears. If things do go awry, it’s the local police who are surprised to discover it’s left in their court to deal with the outfall.

The latest Gallup poll shows >2/3 of Americans are concerned about wild animals suffering in traveling circuses - a reflection of the growing body of knowledge underscoring the inherent suffering & risks of such shows.³⁷ Thirty-two nations have banned the use of wild animals in traveling shows; more than 50 local US jurisdictions also have some form of ban or restriction on traveling wild animal acts.

Banning the use of wild animals does not have to mean the end of the circus. There are more than 20 human-performance circuses in the US, including some who were once animal exhibitors. See also Forbes Magazine (*The Richest People in America 2014*) and The Wall Street Journal (*Power Clown* (2005)), which quote major players in US circuses describing diversification away from "traditional" acts and identifying the primary economic driver in today's circus as being the celebrity clown or "power clown" - not the animals. Recently, Bill Cunningham, owner of *Carden Circus* (the largest animal act supplier for Shriner circuses) retired all its animal acts, citing "immense psychological stress to the animals."³⁸

Circuses must keep up with the modern audience. ... As we look into the future, we see all circuses moving to non-animal productions. Over the last 20 years ... changing public sentiment, performing animal acts have begun to be a thing of the past. So it's up to creative minds to conceive new and entertaining all-human performances...³⁹

Perhaps the most familiar human-performance circus may be *Cirque du Soleil*, which had its first show in 1990 and has now grown to a >\$800 million enterprise. Unlike the noted decline in animal circus attendance, these human-performance shows are proliferating worldwide. Human-performance circuses are popular; they require labor, create jobs, and can bring dollars to local jurisdictions without exposing people (or other animals) to chronically stressed and abused animals.

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For these reasons, ADI calls on USDA-APHIS to: (a) review the extensive research, which is currently readily available, including that provided with the Joint Statement, on marine mammals now suffering in captivity, and (b) to fulfill its mandate under the *Animal Welfare Act* to ensure the humane treatment of animals, by developing and drafting clear, quantitative regulations consistent with that mandate (redirecting the current bent in the Docket APHIS-2006-0085 Notice, which appears instead to emphasize enabling regulated parties); by consistently and vigorously enforcing such regulations; and by instituting a regular review of oversight and enforcement to assess and address program successes and failures.

Thank you for the opportunity to weigh in on this important matter.

Sincerely,



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¹ Salgueiro, Nunes, Barros, Marocol, Salgueiro and dos Santos, *Effects of a dolphin interaction program on children with autism spectrum disorders – an exploratory research* (2012 licensee BioMed Central Ltd. (2012) (**program did not affect the overall clinical picture of autism**); Fiksdal, Houihan, Barnes, *Dolphin-Assisted Therapy: Claims versus Evidence*, *Notice of Disposition of Regulatory Proceedings*, 19081-10-839792 (2012) (**standards held up as supporting the AWA's various** since 1984, despite extensive growth in the study and knowledge base regarding marine mammals.

³ 7 U.S.C. § 2131; see also Cowan, Tadlock, *The Animal Welfare Act: Background & Selected Animal Welfare Legislation*, Congressional Research Service (2013) (describing its legislative history) (emphasis added).

⁴ See Joint Statement, p. 4, citing *Care of Animals Used for Research, Experimentation, Exhibition, or Held for Sale as Pets: Hearings on HR 13957* before the Subcomm. on Livestock and Grains of the House Comm. on Agriculture, 91st Cong. 38 (1970).

⁵ 7 U.S.C. §§ 2133, 2143; see also 9 C.F.R. § 2.1(a)(1).

⁶ 9 C.F.R. § 2.2(b).

⁷ See, for example, Audit Report by the USDA Office of the Inspector General, *Controls Over APHIS Licensing of Animal Exhibitors*, (June 2010), at <https://www.usda.gov/oig/webdocs/33601-10-CH.pdf> (last accessed 5/3/16) and the New York City Bar, Committee on Animal Law's 2015 letter to Secretary Vilsack at <http://www2.nycbar.org/pdf/report/uploads/20072948-USDAAWAEnforcementAnimalReportFINAL7.31.15.pdf> (last accessed 5/4/16) (questioning current practices and calling for objective standards, consistent, vigorous oversight).

⁸ New York City Bar, Committee on Animal Law's 2015 letter to Secretary Vilsack at <http://www2.nycbar.org/pdf/report/uploads/20072948-USDAAWAEnforcementAnimalReportFINAL7.31.15.pdf> (last accessed 5/4/16) (questioning current practices and calling for objective standards, consistent, vigorous oversight).

⁹ *Ray v. Vilsack*, No. 5:12-CV-212-BO (E.D.N.C. Oct 7, 2013), available at <http://www.leagle.com/decision/In%20FDCO%2020131009A27/RAY%20v.%20VILSACK> (last accessed 5/4/16).

¹⁰ *Ray v. Vilsack*, Declaration of Elizabeth Goldentyer (Doctor of Veterinary Medicine employed by the USDA), Document 36-1, para. 5 (March 2013).

¹¹ *Ray v. Vilsack*, Declaration of Elizabeth Goldentyer (Doctor of Veterinary Medicine employed by the USDA), Document 43-1, para. 7 (April 2013).

¹² New York City Bar, Committee on Animal Law's 2015 letter to Secretary Vilsack at <http://www2.nycbar.org/pdf/report/uploads/20072948-USDAAWAEnforcementAnimalReportFINAL7.31.15.pdf> (last accessed 5/4/16), citing a letter written by Nicolette Petervary, Regional Animal Care Specialist, Eastern Region, Animal Care to Meyer, Glitzenstein and Crystal, dated March 21, 2014, relating to AWA exhibitor license for *Marine Exhibition Corporation, Inc.*

¹³ 7 U.S.C. § 2143; 9 C.F.R. § 2.12.

¹⁴ See 5 U.S.C. § 558(c) and *Cox v. United States Dep't of Agriculture*, 925 F.2d 1102, 1105 (8th Cir. 1991).

¹⁵ ” *Eastern Produce Co. v. Benson*, 278 F.2d 606, 609 (3d Cir. 1960); see also *United States v. Murdock*, 290 U.S. 389, 394 (1933).

¹⁶ See 9 C.F.R. § 4.10.

¹⁷ See 7 U.S.C. § 2146(a) and 9 C.F.R. § 2.129(a).

¹⁸ E.C.M. Parsons, *Killer Whale Killers*, *Tourism in Marine Environments*, Vol. 8, No. 3, at 156 Department of Environmental Science and Policy, George Mason University; University Marine Biological Station Millport (University of London) (2012)

¹⁹ L. Marino, et al, *Do Zoos and Aquariums Promote Attitude Change in Visitors? A Critical Evaluation of the American Zoo and Aquarium Study*, *Society and Animals* 18 (2010) at 137.

²⁰ *Statement of Lori Marino, PhD*, Neuroscience and Behavioral Biology Program, Emory University to the House Committee on Natural Resources (2010), available at <http://www.kimmela.org/wp-content/uploads/2012/10/Testimony-Congress-Marino-04272010.pdf> (last accessed 5/4/16).

²¹ *Socio-economic Assessment of Marine Mammal Utilization in the Wider Caribbean Region: Captivity, Viewing, and Hunting* UNEP (DEC)/CAR WG.27/INF.6 (July 2005) (emphasis added).

²² Bowkett, A., *Recent Captive Breeding Proposals and the Return of the Ark Concept to Global Species Conservation*, *Conservation Biology*, Vol. 23, No.3 (2009) available at <https://pdfs.semanticscholar.org/c726/f77974542d5093022c8bc308c2a9efb72140.pdf> (last accessed 5/4/16).

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- ²³ *Wildlife Crime Report* – Directorate General for Internal Policies, Economic and Scientific Policy, European Parliament (2016), available at [http://www.europarl.europa.eu/RegData/etudes/STUD/2016/570008/IPOL_STU\(2016\)570008_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/570008/IPOL_STU(2016)570008_EN.pdf) (last accessed 5/4/16).
- ²⁴ Reeves, Smith, et al., 2002-2010 IUCN Conservation Action Plan for the World’s Cetaceans, (*also advocates for minimal noise - cetaceans (and many other aquatic animals) depend for their survival on the ability to sense their environment acoustically. ... A precautionary guiding principle is this: the less noise, the better.*)
- ²⁵ http://www.noaanews.noaa.gov/stories2013/20130806_georgiaaquarium.html (last accessed 5/4/16).
- ²⁶ WAZA Code of Ethics, 2003 at http://www.waza.org/files/webcontent/1_public_site/5_conservation/code_of_ethics_and_animal_welfare/Code%20of%20Ethics_EN.pdf (last accessed 5/3/16).
- ²⁷ See *A review of the welfare of wild animals in circuses*, Stephen Harris, Graziella Iossa & Carl D. Soulsbury, University of Bristol (2006) at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwi6w-Pcx77MAhWJiYKHT6WCtwQFggdMAA&url=http%3A%2F%2Fwww.rspca.org.uk%2FImageLocator%2FLocateAsset%253Fasset%3Ddocument%26assetId%3D1232714755621%26mode%3Dprd&usg=AFQjCNG5_GvyAuL5I2l0efW4eyQ_K1gB6w&sig2=o0QB0DiH93ZkFU7R9IwiDA (last accessed 5/3/16); Coghlan, Andy, *Circus Captivity is beastly for wild animals*, New Scientist (2009) at <https://www.newscientist.com/article/dn17169-circus-captivity-is-beastly-for-wild-animals/#.VKwc71rIZII> (last accessed 5/3/16); see also TG. Iossa, CD Soulsbury, & S. Harris, *Are wild animals suited to a traveling circus life?* University of Bristol, UK (2009) (*subsequent 2009 study affirming earlier results*).
- ²⁸ Federation of Veterinarians of Europe (June 2015) at http://www.fve.org/uploads/publications/docs/fve_position_on_the_travelling_circuses_adopted.pdf (last accessed 5/3/16).
- ²⁹ See NYC Bar, Committee on Animal Law report at <http://www2.nycbar.org/pdf/report/uploads/20072237-HRBillTravelingExoticAnimalProtectionAct.pdf> (last accessed 5/3/16).
- ³⁰ NYC Bar, Committee on Animal Law report, p.2 at <http://www2.nycbar.org/pdf/report/uploads/20072237-HRBillTravelingExoticAnimalProtectionAct.pdf> (last accessed 5/3/16).
- ³¹ NYC Bar, Committee on Animal Law report, p.5 at <http://www2.nycbar.org/pdf/report/uploads/20072237-HRBillTravelingExoticAnimalProtectionAct.pdf>, citing Audit Report by the USDA Office of the Inspector General, *Controls Over APHIS Licensing of Animal Exhibitors*, p. 2 (June 2010), at <https://www.usda.gov/oig/webdocs/33601-10-CH.pdf> (last accessed 5/3/16).
- ³² See E. Ratiff, *Taming the Wild*, National Geographic (March 2011) and N. Wolchover, *Why Can't All Animals Be Domesticated?* livescience (2012) at and respectively (last accessed 5/3/16).
- ³³ See TG. Iossa, CD Soulsbury, & S. Harris, *Are wild animals suited to a traveling circus life?* University of Bristol, UK (2009), citing Langley & Hunter (2001).
- ³⁴ *SeaWorld of Florida, LLC v. Perez, Secretary, US Dep't of Labor*, USCA Case number 12-1375 (2014).
- ³⁵ See ADI’s economic briefing at <http://www.federalcircusbill.org/briefings/restricting-the-use-of-wild-animals-in-circuses-the-economics-2/> (last accessed 5/4/16).
- ³⁶ See USDA APHIS Audit Report, Office of Inspector General, 2010.
- ³⁷ 2016 Gallup poll at <http://www.gallup.com/poll/183275/say-animals-rights-people.aspx> (last accessed 5/4/16).
- ³⁸ NewsFix, CW33, reported by Sharda Neal (2015) <http://cw33.com/2015/09/01/shriners-peta-heated-battle-over-animals-in-shrine-circus/> (last accessed 5/4/16).
- ³⁹ *The Topeka Capital Journal*, reported by Bill Blankenship, quoting James Hamid of *Hamid Circus* (the oldest single-family operated US circus) (2015) at <http://cjonline.com/life/arts-entertainment/2015-02-19/topekas-arab-shrine-circus-returns-75th-straight-year#> (last accessed 5/4/16).