

Review: *Reducing the Risks of the Wildlife Trade* by K. F. Smith, M. Behrens, L. M. Schloegel, N. Maranao, S. Burgiel, and P. Daszak. 2009. *Science* 324:94-95.

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The first half of this short article published in the Policy Forum section of *Science* is little more than a rehash of *Broken Screens* (Jenkins et al., 2007). The article ends with an evaluation of the proposed anti-animal law entitled the Nonnative Wildlife Invasion Prevention Act (HR-669) and includes the opinions of the authors on how to better construct that regulation.

Like *Broken Screens*, the first half of Smith et al. is an anecdotal narrative based on data chosen to support a foregone conclusion—it is a review of import data with comments based on selectively chosen negatives. The authors use the Law Enforcement Management Information System (LEMIS) with no mention of criticism (e.g., Reaser and Waugh, 2007) that data from LEMIS may be inadequate for this type of report.

This article carries the rubric: “Importation of wildlife into the United States, most with scant identification, brings an increased threat of disease and introduction of invasive species.” Despite the statement that this report is concerned with the U.S. wildlife trade, the entry paragraph of the report states that the “immense” magnitude of the commerce in animals consists “. . . of billions of live animals and animal products traded globally each year.” Apparently it is assumed that the reader will accept the implication that “immense” is bad. No attempt is made to explain “animal products,” even though they must significantly weight the “estimates of billions” of items cited by the authors without explanation, example, or support in the report that follows.

Indeed, the authors make every attempt to emphasize the magnitude of the trade in wildlife in the United States. To maximally inflate the numbers, the authors have combined all groups of vertebrates and invertebrates in the LEMIS database, even though different taxonomic categories of animals present dramatically different degrees of potential to become invasive (Jenkins et al., 2007). To further exaggerate the enormity of the wildlife trade, the report sums the trade over the seven-year period 2000–2006. During that period, nearly 1.5 billion animals were imported into the United States.

Indeed, that seems a spectacularly immense number. However, we note that during that same period of time, more than 2 billion poultry were raised and slaughtered in the USA. In 2007 alone, turkey production in the United States was 7.8 billion pounds (USDA National Agricultural Statistics Service, 2008).

In each of the years included in the report, about 200 million animals were imported, less than one animal per person in the country. Of course, about 96% of the total of imported animals were fish, and crustaceans—about 192 million animals.

The 8 million other animals include amphibians, annelid worms, arachnids, birds, coral, centipedes, echinoderms, insects, mammals, mollusks, reptiles, and a category identified as miscellaneous. Consider that there are more than 150 million dogs and cats in the United States (AVMA, 2007), 96 million cows (USDA National Agricultural Statistics Service, 2009), and more than 13 million reptile pets (APPA, 2007).

Our point is not to minimize the numbers of imported animals, but we do want to bring it into some comparable context of just how many animals there are in the United States. It is a big country with a lot of people who, collectively, have a lot of animals. We are neither surprised nor alarmed by the numbers of animal imports.

Smith et al. then discuss the numbers of animal shipments in which the animals are not properly identified. In 2006, the last year covered by this report, about 260,000 international shipments of animals were received in the United States. Coral and fish make up more than 95% of the total animals and about 60% of the shipments; about 33% of coral are identified and only 2% of fish are identified by species (Jenkins et al., 2007). In contrast, all terrestrial vertebrates are significantly better identified—90% of amphibians and mammals are identified to the species level (Jenkins et al., 2007). The authors note that imported animals should be labeled by species, as mandated by federal law [50 Code of Federal Regulations 14].

It would seem to us that the most suitable and parsimonious action to correct this violation of law is to refuse entry to incorrectly labeled shipments, in keeping with existing law. Instead, the authors view as more appropriate the action of new, more restrictive legislation, specifically referring to proposed anti-animal HR-669. Rather than hold USF&W Service accountable for their lapses in record-keeping and enforcement, the authors apparently believe it more expedient to restrict the entry of essentially all animals into the country until suitable “risk analyses” can be made for each species.

It is our opinion and observation that with regard to predicting ecological invasion, risk analysis is a form of fortune-telling. When a problem is apparent, such as an amphibian species that harbors the virulent chytrid fungus, then entry of that species into the country can and should be restricted. It doesn’t take an invasion biologist to make that call.

When invasion biologists declare that an animal species might be able to survive in nature in this country, that is an opinion cloaked in a thick veneer of “scientific modeling and analysis.” It is a guess, and nothing more.

The United States is a huge area with an extraordinary diversity of ecological zones and habitats. There is almost no animal species on this planet that could not purposely be introduced into a selectively chosen habitat somewhere on this continent.

Is it fair, expedient or correct to declare that since dromedary camels might be able to survive if introduced to southern Arizona, the species should be banned in the entire United States? [We note that, in fact, dromedary camels are included on the ridiculous list of “risk-annotated” species of concern in *Broken Screens* (Jenkins et al., 2007).] Yet that is the action proposed by the anti-animal Act HR-669, an action apparently supported by the authors of this article.

A quick summary of HR-669 is that all imported species

would be placed on a black-list and banned from importation. Then, based on risk analyses to be performed at some point in the future, *those species that can be proven to not become invasive* if released into nature can be moved from the black-list to a white-list, and only then imported, transported, captive-bred, and entered into commerce. This, of course, creates the conundrum that the invasion biologists have to prove a negative in order for a species to be placed on the white-list—they have to prove that a species cannot become invasive. This is logically impossible.

The hypocrisy and hubris of HR-669 is best illustrated by its preliminary white-list of 14 exempted species, ten of which are considered to be invasive species or risk-annotated species (Jenkins et al., 2007).

Smith et al. propose that along with the black-list/white-list approach of HR-669, a third category referred to as a “gray list” should be created. To quote: “Realistically, scientific information on the environmental, health, and economic impacts of many species in the trade is likely to be minimal. To support fair commerce we propose that, until scientific findings are released, gray-listed species that have been previously imported should be provisionally approved. . . .”

They go on to state: “H.R. 669 could be used to immediately deal with many traded species that have been *fully researched* by the scientific community.” [Italics and skepticism ours.] The next sentence refers to the chytrid fungus epidemic in amphibians, and then comes this statement: “There is excellent science identifying amphibian species that are likely carriers, which could be used to conduct adequate risk analysis.” We point out that the “excellent science” refers to a paper in press by one of the authors.

While it is amusing to note the confidence with which the authors regard their own research, we are not impressed with their proposed modification of HR-669. It still requires a scientifically and logically impossible argument to move a species from their proposed gray-list to the white-list. Also, we note that nearly all of the more than 3,000 animal species currently legally imported would properly have to be placed on the gray-list due to a lack of suitable data or published research.

Even though only a tiny percentage of all of the species included in the report might harbor zoonotic diseases, the authors hold as a priority the possible public health concerns

created by animal importation. To that possibility, the authors propose extralimital policies and practices to monitor animal species prior to shipping, suggesting a “third-party screening of selected species for high-priority diseases before shipping.” This is to be accomplished by some international super-agency not currently in existence.

To their credit, Smith et al. do allow that to avoid the economic hindrance that HR-669 or similar regulatory proposals might pose to the multi-billion dollar animal industry of this country, the captive-breeding of exotic species currently imported should be encouraged. They specify that this would both reduce the pressure on wild populations and reduce the risk of disease introduction. However, as written, HR-669 would permit captive-breeding only for white-list species, that being a tiny percentage of the species in the wildlife trade.

To summarize, the essence of Smith et al. is that it is a short opinion piece published in *Science* in which the authors (environmental and invasion biologists) propose that the government should put all imported animals in legal limbo, and then hire several hundred invasion biologists to perform risk analyses to sort out what might be “safely” imported. We can only imagine that in this current economic environment, this would take decades with only a minuscule percentage of the species ever re-entering commercial trade. This paper cites support for both *Broken Screens* and HR-669, and as such should be considered yet one more “scientific paper” initiated by and supporting the animal-rights agenda to remove animals from public hands.

Our comment is that, at least with regard to terrestrial vertebrates, the problems of invasive species are rare and require local action at the state level. Any anti-animal legislation on the national level such as proposed by this paper and embodied by HR-669 will directly, negatively, and unnecessarily affect the economy of citizens and businesses, and their cities and states. It grants the federal government sweeping power to confiscate the rights to legal property from citizens.

The paper ends with the dire warning that the cost of invasive species to the United States is \$120 billion annually. Smith et al. are surely quite aware that it is plant species and accidental pest imports that account for all but a tiny fraction of that figure. Terrestrial vertebrate animals legally identified, declared and imported are not the real problem, but they *are* the primary concern of animal-rights activists.

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