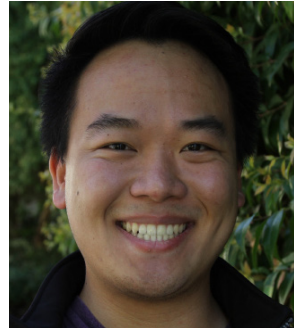


Boars (What Are They Good For?)

ALEX LEI



WRITER'S COMMENT: I originally wrote this essay as a news story for UWP 111C (Science Journalism). For this essay, we could write about any topic we wanted as long as it had something to do with science. I decided to write about one of my personal interests, the ecology and management of invasive species. Specifically, I wanted to write about the wild boar invasion happening across the United States. My goal for this paper was to draw more attention to how the wild boar invasion began and what kind of damage wild boars do to native ecosystems. I also wanted to draw attention to several possible solutions for the invasion that people are looking into. Dealing with wild boars (and invasive species in general) is a tricky process, so I addressed some of the nuances and difficulties of these solutions. I hope you deepen your understanding of species invasions and the problems they can pose after you read this essay, even if wild boars are far removed from your own life.

INSTRUCTOR'S COMMENT: Students in Science Journalism (UWP 111C) have the constant task of finding the newsworthiness in anything they want to write about. We talk at length throughout the quarter about what makes science newsworthy, and the truth is, that is most often up to the writer. Alex was one of the most thoughtful and engaged students in the class this year, and he brought wit and intellect to his choice of topics for each assignment. Yet this feature article about wild boars was a wonderful surprise for me as a reader (and fan) of Alex's work. Like many of you about to read this piece, I knew very little about the impact of wild boars on the environment

and economy, and found the information presented to be fascinating. But it's the style and tone of the article that really set it apart, as Alex has brought the topic to life with his stellar prose. I look forward to reading more of his work and, if he chooses, he'll have a bright future as a science writer.

—Katie Rodger, University Writing Program



Figure 1. A wild boar. Photo from the Wikimedia Foundation, taken by Richard Bartz.

Boars: what are they good for? According to many people in the United States, not much.

Wild boars (*Sus scrofa*) came to the U.S. in two waves from Europe. The first wave of boars was transported to the U.S. by Spanish explorers for food. Some of these escaped and became feral. The second wave was brought over by hunting enthusiasts, where again some escaped to the wilds. Today's wild boars are descendants of these two waves, as well as domesticated pigs that escaped farms.

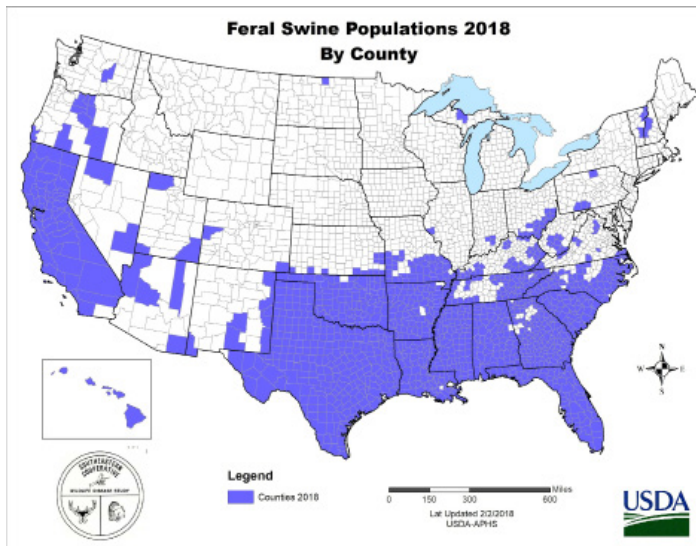


Figure 2. A map of wild boar populations in the United States. Photo from the US Department of Agriculture.

Since their introduction, most American wild boars have settled in California, Hawaii, parts of the Southwest, and much of the South, though they are widely distributed across the country. Wild boars have been reported in thirty-five states and are estimated to be six million strong. As you can see in the map (Figure 2), wild boars have even been spotted as far north as Michigan and North Dakota.

So far, their existence has been nothing but trouble for native ecosystems and human-owned lands. Like the lionfish, the kudzu vine, and the cane toad, wild boars are a classic modern example of an invasive species: resilient, versatile, and competitively dominant.

The list of problems these swine pose is quite extensive. When they feed, they uproot large amounts of soil, which increases erosion rates and invasion rates of non-native plants while disrupting local biogeochemical cycles. Uprooting also damages private property and historical monuments. Their feces contaminates local water supplies. They can eat anything and have huge appetites; they cause billions of dollars in crop damage and leave little food for other animals (deer, for example) in the wild. They do well in a variety of environments and ecosystems. They can



Figure 3. Wild boars feeding. Photo taken from Mongabay.com, taken by Rhett A. Butler. Note the disturbances in the soil these boars have caused.

spread a host of diseases to livestock, pets, and humans (though humans have to eat wild boar meat first). Wild boars are resilient pest animals responsible for roughly **\$1.5 billion per year** in damages and control costs and are prime targets for pest control.

At the same time, wild boars are **difficult to get rid of**. They

are intelligent enough to evade traps and learn from failed hunting or trapping attempts. And they have no natural predators in the United States. Wild boars breed very quickly; sows can start breeding at six or eight months and have litters of four to eight piglets every twelve to fifteen months.

The rapid spread of wild boars across the United States has sparked numerous research projects, policy changes, and citizen-led initiatives to deal with them. As wild boars are resilient pests, controlling their populations will likely require a multifaceted process. Currently, these initiatives are disparate and relatively unorganized—a more unified and extensive approach is necessary.

Perhaps the most straightforward solution proposed thus far has been hunting wild boars to control their populations. In some areas, such as Texas, boar hunting has become a lucrative business. In Texas, it is legal for hunters to kill or capture wild boars without limits. People hunt them on foot, from helicopters, and **even hot air balloons**. After they are killed or captured, they are processed in slaughterhouses and their meat is sold to the Texan public. Some of their meat even finds its way to California or New York.

Even then, there are issues with boar hunting. Hunters and landowners tend to favor keeping large amounts of wild boar present **because of the profits involved**. Hunters get a consistent source of income and meat and landowners make money off of hunting leases. Some boar

hunters [illegally transport and release](#) their intended prey in different areas, helping them spread further across the United States.

In addition, hunting boars needs to be intensive in order to keep their population down. While hunting services such as [Helibacon](#), which allows people to shoot boars from helicopters for \$4,000 (Figure 4), can kill several hundred of them per day, boars perhaps breed too rapidly for hunting to make a dent in their numbers. According to the Wildlife Services, a division of the United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA APHIS), "[studies show that at least 70 percent of feral swine must be removed each year in order to prevent population growth.](#)"



Figure 4. Two people hunting boars from helicopter. Photo from Helibacon.com

Their rapid breeding poses a problem for population control methods since more of them are born than humans can cull. As Mike Bodenchuk, the USDA's director of wildlife services in Texas, [says](#): "You can't barbecue your way out of this problem."

Legislating a way out could be an alternative. State and local governments have passed laws to control the spread of wild boars. In a [paper](#) published on the *National Center for Biotechnology Information* website, Terence J. Centner and Rebecca M. Shuman of the University of Georgia describe several policies that state or local governments have taken up.

Many states, including California, Kentucky, Kansas, and Minnesota, have banned importing, transporting, and releasing wild boars within their borders. Some states have passed laws that discourage maintaining existing boar populations. One of the most common laws is a ban on charging hunting fees to prevent material gain from wild boars. States that have passed these laws include Wisconsin, Oregon, and Illinois. Some states such as Indiana and Kansas have begun eradication efforts, where ownership of live boars is banned and hunting is only allowed under specific circumstances.

In contrast, some states have passed favorable laws for hunters. These states include Mississippi, Louisiana, and Texas—some Texan counties have even offered payment in return for slain boars.

Centner and Shuman have critiques of the various policies above. Their main criticism is that the regulations are inadequate, not uniform, and difficult to enforce. Centner and Shuman also state that regulations that prohibit import, transport, and release of wild boars are not as effective as state and local governments hope since these laws do not address the rapid breeding rates of wild boars. Some states also have multiple agencies regulating wild boars in contradictory ways: “[W]hile one agency may support preserving animals for hunting,” they write, “another may be attempting to offer support for activities to reduce crop damages.” Centner and Shuman conclude that “many states are not offering bona fide support to the reduction of feral swine populations.”

Centner and Shuman end their discussion with a call for more federal intervention in the hopes of more extensive efforts to control boar populations, though they acknowledge that “a strong property rights ethic” in the United States poses a challenge to more extensive federal regulations.

There are other options under consideration. Centner and Shuman describe how other countries such as Australia and New Zealand have authorized the use of poisons to control their own wild boar populations. Research on the use of poisons in the United States is currently underway. According to [Marketplace.org](https://www.marketplace.org), the USDA is researching the use of



Figure 5. Ironically, sodium nitrite is used to cure pork products like these seen above.

sodium nitrite (which is used to cure pork, interestingly enough) as a possible control measure. In large enough doses, sodium nitrate reduces the ability of blood cells to deliver oxygen to tissues. [Boars that take enough of the bait will essentially suffocate from the inside, fainting and dying within two-and-a-half to three hours due to lack of oxygen.](#)

The USDA acknowledges that poisoning wild boars with sodium nitrite is a drastic measure. As

Stephanie Shwiff—a research economist at the USDA who works with the team researching sodium nitrite use—says, “No one likes a toxicant, producers don’t like toxicants, the general public doesn’t like toxicants, even the government doesn’t like toxicants. . . . But the other management options are too expensive on a large landscape scale. We’re out of options.”

The USDA believes that sodium nitrite is the lowest-risk poison available. Most of the sodium nitrite that boars ingest is metabolized before they die. Any of the compound that remains is eventually broken down, so scavengers are at less risk of getting poisoned themselves. However, the USDA and Center and Shuman note that sodium nitrite can have undesired effects on other species. It can potentially poison other animals, such as deer, bears, and raccoons. Research about its effects on humans is still ongoing. Center and Shuman also warn that these other animals may consume most of the bait. To prevent these unintended side-effects, the USDA is “developing and testing swine-specific delivery systems and baiting strategies.”

It is likely that any attempt to control (or even reverse) the wild boar invasion will require a multitude of solutions, including improved versions of those discussed above. Further research will be necessary for any initiative that targets wild boars. In addition, current approaches are likely not enough to stem the tide of wild boars and this is a significant problem. In Shwiff’s words, “They will be, and are, the worst invasive species we’ll ever see.” Improvements will need to come quickly in order for boar management and eradication programs to be more effective at reducing wild boar populations.

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