ILDLIFE.SECURE.FORCE.COM/CUSTOMLOGIN)

Y) @ (HTTPS://WWW.INSTAGRAM.COM/THEWILDLIFESOCIETY/) in (HTTPS://WWW.LINKEDIN.COM/COMPANY/THE-W



SHARE THIS ARTICLE

WILDLIFE FEATURED IN THIS ARTICLE

- 📽 White-tailed deer
- 않 Key deer
- * Ocelot

ANOTHER SCREWWORM INCURSION INEVITABLE, EXPERTS WARN

June 10, 2025 by Joshua Rapp Learn (/news/?_sfm_writer=57342#search-filter-results-56635)

Parasitic fly larvae that feed on open wounds of mammals and birds could have devastating impacts on wildlife and cattle in the southwest Wildlife professionals are ringing the alarm bell on the prospect of a screwworm infestation that could impact wildlife in the southern United States and create a massive impact on hunting and cattle industries.

To prepare for the infestation some believe is imminent, experts are calling for interagency collaboration, funding and international cooperation to prepare a strategy for dealing with a problem most have not experienced in their lifetime.

"It poses a threat to populations of warm-blooded mammals and birds," said Neal Wilkins, CEO and president of the East Foundation, a private ranch focused on land stewardship, cattleraising and wildlife conservation. "The penalty for overpreparation is nowhere near the penalty for underpreparation."

What is screwworm?

The New World screwworm fly (*Cochliomyia hominivorax*) has a particularly macabre life cycle. Adult flies lay their eggs on the open wounds of animals—usually mammals. The eggs hatch into maggots—the screwworms—which proceed to gorge themselves on the healthy flesh of the unfortunate creature.



Screwworm flies often target the areas around the antlers of deer. Credit: <u>Val Preziosi (https://valpreziosiphotos.com/)</u>

Cattle are particularly susceptible to screwworms, especially around the wounds caused by dehorning or castration. Calves can also get infected around their navels. Occasionally, otherwise healthy soft tissue areas, such as the corners of eyes, can become infected. Humans can also contract screwworms, although doctors usually treat infections in the early stages.

Wildlife and cattle aren't so lucky. Female flies can lay 200-300 eggs on a wound. The maggots screw themselves into the wound—hence their name—opening it up more and more. If untreated—which is typical with animals—they can die directly from the wound or from secondary infections by bacteria or other parasites.

Screwworms, being endemic to North America, were a persistent problem in the U.S. from at least the 19th century until their official eradication in the 1960s. If they do come back, the impact on wildlife, cattle and the hunting industry would be huge.

"This is a food security issue; it's a border security issue; it's a national security issue," said Andrew Earl, director of conservation at the Texas Wildlife Association. "We think it's a tremendous threat to native wildlife," he continued, adding that even pets can be infected by screwworms. "Fido and Spike are at risk, too."

How were screwworms eliminated from the U.S.?

The fly is native to the Americas. Its natural range encompasses much of the tropics of Latin America, historically stretching into southern U.S. states. But a massive, decades-long effort starting in the U.S. in the 1950s began to push the insect's range down into Mexico. The screwworm was considered eradicated in the U.S. by 1966 and then from Mexico and most of Central America in succeeding decades. By the 1990s, the screwworm was basically blocked from entering South America due to ongoing control efforts at the Darien Gap in Panama, where the isthmus meets Colombia.

The novel eradication strategy at the time involved a technique of releasing sterilized male flies. In this method, breeders produce hundreds of millions of flies in facilities. They sterilize these by exposing them to radiation at specialized facilities. Technicians then release these sterilized males into the wild. The sterile males will still mate with females, but they produce no offspring. Over generations, the population of fertile screwworms is whittled down to nothing.

"You breed it out of existence locally," said Earl.

In the heyday of screwworm eradication, the U.S. maintained various facilities, each producing hundreds of millions of sterile flies every week—one in Texas, one in Florida, one in Tuxtla Gutierrez in southern Mexico and one in Panama.

Unfortunately, only the facility in Panama remains. The facilities in Florida and Texas stopped producing sterilized flies, while the Tuxtla Gutierrez facility closed in 2012. "It was a big loss when the USDA gave the existing facility in Chiapas to the Mexican government in 2012," Wilkins said. "The Mexican government shut it down, and we lost all of our investment as a nation."

The screwworm story was ripe for a sequel.

How did we stop the screwworm in Florida?

Usually, when you take your foot off the gas, the car eventually stops moving. Dating back more than a half century, the vehicle was speeding full throttle as U.S. authorities worked with scientists, wildlife managers and foreign governments to drop sterilized flies all across Mexico

and Central America.

In the summer of 2016, screwworms first made their way to the Florida Keys. In July, <u>a few</u> <u>cases popped up in Key deer (https://nri.tamu.edu/publications/research-reports/2016/florida-key-deer-screwworm-final-report-phase-i/)</u> (*Odocoileus virginianus clavium*), a subspecies of white-tailed deer (*O. virginianus*) <u>endemic to the Keys (https://wildlife.org/wild-cam-lack-of-water-drives-key-deer-toward-domestication/)</u> and considered <u>endangered</u> (<u>https://ecos.fws.gov/ecp/species/6326</u>) by the U.S. Fish and Wildlife Service (USFWS). Nobody is entirely sure how it arrived, but cases occur in parts of the Caribbean. "A hurricane could have blown it in, [or] it could have come in via some trade or animal movement," said Roel Lopez, director of the Texas A&M Natural Resources Institute. By the fall rutting seasons, cases shot up into the dozens per month.



A Key deer succumbed to injuries caused by screwworm maggots in the 2016 infestation in Florida. Credit: <u>Val Preziosi (https://valpreziosiphotos.com/)</u>

Lopez, who has worked on Key deer for three decades since his PhD thesis on the topic, and his colleagues set out to collect carcasses and euthanize any infected deer captured. Out of 127 cases of deer killed by the fly, they found 92% of them were male, and most were adults. Lopez said that rutting-related fights provided open wounds for the flies to lay their eggs during this season, resulting in a wave of deaths. "The story would have been different, we suspect, if it were in the spring when the does were fawning," he said, adding that pregnancy-related exposure some deer experienced at the time may have resulted in more infections for mothers and their young rather than just adult males.

By October, technicians mobilized a larger response, dropping hundreds of millions of sterile flies produced at the Panama facility onto the Keys. The work produced immediate results. "It's amazing to me how effective the sterilized fly program was in disease control," he said. The last two known deer deaths from screwworm occurred in January 2017. After a quick seven months, screwworms were basically eradicated in the Keys once more.

How close are screwworms to the U.S.-Mexican border?

Unfortunately, the Florida situation may have just been a preview of an upcoming feature on the mainland. Screwworms first began appearing past the containment area in Panama's Darien Gap in 2022. By late 2024, <u>reports (https://www.federalregister.gov/documents/2025/01/16/2025-00939/addition-of-guatemala-and-honduras-to-the-list-of-regions-affected-with-screwworm)</u> began to surface in Guatemala and Honduras of screwworm infections. It's difficult to say how they made it past the Darien Gap, but there are several possibilities, Earl said. Monitoring and surveillance for screwworm was relaxed due to the COVID-19 pandemic several years ago, and an increase in illegal cattle trafficking in the region might also be helping to spread animals infected with maggots. The increase in human migration northward may also be playing a role, Earl said.

In November 2024, Mexican authorities announced a case in the country's south. The U.S. shut down the Mexican border to live animal trade but then opened it back up in February after the Mexican government and the U.S. Animal & Plant Health Inspection Service (APHIS) <u>put a new</u> <u>pre-clearance inspection and treatment protocol into place</u>

(https://www.aphis.usda.gov/sites/default/files/aphis-senasica-nws-protocol-importruminants.pdf).

APHIS began releasing sterilized flies in southern Mexico and other parts of Central America. When screwworms were detected in Oaxaca and Veracruz in an area only 700 miles from the U.S. border, U.S. Secretary of Agriculture Brooke Rollins <u>closed the border</u> (<u>https://www.usda.gov/about-usda/news/press-releases/2025/05/11/secretary-rollins-</u> <u>suspends-live-animal-imports-through-ports-entry-along-southern-border-effective</u>) to live cattle, horse and bison (*Bison bison*) imports again in May.

How would the screwworm affect U.S. wildlife?

A female screwworm fly can lay up to 3,000 eggs during its 10-day lifespan. The impact on cattle in southern states like Texas would be huge. But other mammals like javelina (*Pecari tajacu*) and even ocelots (*Leopardus pardalis*), considered <u>endangered</u> (<u>https://ecos.fws.gov/ecp/species/4474</u>) by the USFWS, could be affected.

The Key deer situation shows just what a problem screwworm can be for an endangered species. The subspecies numbered about 600-700 before the infestation began. Some 127 deer were known to have died from the worms—about 20% of the population. Then surviving deer were further decimated by Hurricane Irma, which swept through Florida in August 2017. "It was an unfortunate episode for Key deer," Lopez said.

Wilkins said that some estimates project a localized loss of a quarter of the population of some mammals due to screwworms. With less than 100 ocelots living in the U.S.—all just north of the border in southern Texas—wildlife managers could see a huge loss in numbers for a species that millions of conservation dollars have been invested in. "I don't think an endangered species can withstand a loss of 25%," he said. "It's a problem with a lot of dimensions," he said.

Meanwhile, a substantial loss in deer numbers will hit the hunting industry hard. The white-tailed deer hunting industry in Texas alone contributes \$2.3 billion to the state's gross domestic product, <u>according to Texas A&M University (https://nri.tamu.edu/media/3858/economic-values-of-white-tailed-deer-in-texas-2022-survey-part-ii.pdf)</u>.

Solutions aren't clear-cut

Screwworms were successfully eradicated from the U.S. and Central America in the past thanks in part to international cooperation. But the recent outbreak in Central America and Mexico is happening against the backdrop of increased international tension due in part to tariffs instituted by the Trump administration.

"Success in the years ahead will require cooperation at all levels of government, on both sides of our southern border," Earl said, adding that the U.S. shouldn't be relying solely on other countries to ensure protection from screwworms. While Rollins <u>recently announced</u> (<u>https://www.usda.gov/about-usda/news/press-releases/2025/05/27/update-usda-efforts-</u><u>fight-new-world-screwworm-mexico</u>) a partnership with Mexico and a \$21 million investment to upgrade an existing fruit fly facility in Metapa into a screwworm fly sterilization facility, it's unclear when the plan will be finalized.

"Having several production facilities creates some redundancy and helps with risk management," said Wilkins in response to the announcement. "Reducing our capacity from three major facilities in the 1970s to only one now definitely contributed to the problem that we are facing at present."

In the meantime, Earl said that the U.S. needs a facility on home soil for additional security. "We need to have the capacity to produce and distribute these flies within the United States."

Wilkins worries about the current location of the screwworm, as weeks have passed without reports.

"Mexico is now blaming the United States for the entirety of the problem," he said. "They are now not monitoring or not reporting," he said.

If they were 700 miles from the border several weeks ago, in theory, flies could have already made it near the border. "These flies can travel 12 miles a day when not on livestock," Wilkins said. "There is a real possibility that they are closer than they were two weeks ago."

He also worries that the flies are approaching the U.S. at the beginning of the summer, when the insects thrive. "If you are a screwworm, this is the perfect time to hit the U.S. border," he said.

At this point, even if the U.S. takes all the flies produced at the Panama facility and releases them near the border, it will only be about a third of the total amount used to boot them southwards in the 1960s, when there were three facilities operating.

"We have no opportunities for a legitimate containment barrier until they hit the United States," Wilkins said.

In the meantime, Wilkins and Earl said the U.S. needs a well-developed plan that involves collaboration among agencies, cattle ranchers, wildlife organizations and hunters.

Some strategies could involve adding an antiparasitic drug like Ivermectin to deer feed, but secondary ecological impacts and secondary physiological impacts on deer need to be considered.

Wilkins said that other regulatory hurdles also need to be straightened out. For example, if a deer with signs of screwworm infection appears on private land, are managers there permitted to control and remove the deer, even outside of hunting season? And what should be done with the carcass?

He also said that landowners and other wildlife interests—whether they be private, government agencies or nonprofits—will also need more veterinarians on the ground.

An additional challenge is that federal agencies that would be involved in the screwworm effort are being affected by reductions in force (RIFs) (https://wildlife.org/usgs-grants-frozen-layoffsplanned/), travel freezes and hiring freezes—at a time when travel and interagency collaboration are necessary for this issue. The U.S. Department of Agriculture's Knipling-Bushland U.S. Livestock Insects Research Laboratory in Kerrville, Texas, has been working on methods to fight screwworms since World War II, Wilkins said. "They've done a lot of work, but they haven't been able yet to put it into operation due to funding cuts and hiring freezes," he said.

He suspects the Trump administration will get on board with efforts to support USDA's labs like Knipling-Bushland, but these efforts need to happen sooner rather than later. For most experts working on the issue, it's a matter of when, not if, screwworms will cross the Mexican border, with some saying it may happen within weeks and others saying months.





(https://info.distance.ufl.edu/l/307541/2025-05-14/56rd72)

Header Image: An adult New World screwworm fly. Credit: Judy Gallagher (https://flickr.com/photos/52450054@N04/)

RELATED POSTS



MAY 23, 2025 DEER **BEHAVIOR AND** DISEASE VARIES **SEASONALLY**

(HTTPS://WILDLIFE.ORG/DEER-BEHAVIOR-AND-DISEASE-TRANSMISSION TRANSMISSION-VARIES-SEASONALLY/)

White-tailed deer pick different habitat and behaviors in breeding and nonbreeding seasons