

Report says wireless radiation may harm wildlife

- By Scott Wyland swyland@sfnewmexican.com
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Timeline for wireless radiation oversight

1980s to 1996: The Environmental Protection Agency measures levels of wireless radiation in the U.S. and is tasked with developing safety limits. The agency issues findings in a 1984 report on biological effects and a 1986 report on environmental exposure levels.

1995: The EPA meets with the Federal Communications Commission and presents its plan to develop safety limits for the potentially harmful electromagnetic fields that wireless technologies produce.

1996: The EPA's research on EMFs is defunded. The agency



A cell tower off I-25 on Jan. 31.
Luis Sánchez Saturno/The New Mexican

Health researchers raised concerns in the 1990s about the possible harmful effects of wireless radiation from cellphones and towers,

closes is project measuring EMF levels in U.S. cities. The FCC adopts wireless radiation rules and safety limits proposed by industry-connected groups.

1999: The Food and Drug Administration asks the National Toxicology Program to study cellphone radiation because of the lack of safety data on the health effects from long-term exposure.

2008: The National Research Council issues a report called “The Identification of Research Needs Relating to Potential Biological or Adverse Health Effects of Wireless Communications Devices.” Congress holds a hearing on the health effects of cellphone use.

2009: The U.S. Senate holds hearings on the health effects of cellphones' wireless radiation.

2012: A Government Accountability Office report recommends cellphone test procedures be reassessed to ensure they reflect real world use and are based on the latest science.

2013: The FCC opens an official inquiry asking if wireless radiation limits should be updated. Thousands of pages of scientific evidence are submitted

and their warnings met pushback from telecommunications companies on the verge of growing a mega-industry.

Industry-backed researchers assured federal agencies health concerns — especially those centered on the possibility of low-level microwaves causing cancer — lacked conclusive evidence.

Regulators accepted their assessments, and the alarm bells went silent.

Now a trio of researchers have compiled a report saying the widespread installation of cell towers and antennas is generating electromagnetic fields — EMFs for short — that could be physiologically harmful.

The report focuses on potential impacts on wildlife, trees, plants and insects, such as bees, because there are no regulations protecting them from EMFs emanating from wireless antennas. Wildlife protections are becoming more vital as this radiation — known more specifically as radiofrequency EMFs — escalates through 5G technologies, the researchers warn.

“There needs to be regulatory standards to address EMFs affecting wildlife,” said Albert Manville, a retired U.S. Fish and Wildlife Service biologist and one of the paper’s authors.

Manville also is an adjunct science professor at Johns Hopkins University.

to the FCC for its inquiry.

2019: The FCC issues a decision not to update the 1996 standards.

2020: The Environmental Health Trust files a petition against the FCC arguing the 2019 decision was not based on an adequate review of the data submitted.

2021: The U.S Court of Appeals in Washington, D.C., rules the FCC must review its 1996 guidelines and justify why they shouldn't be updated.

Source: [*Environmental Health Trust*](#)

He said he provided the Federal Communications Commission with some research on how the electromagnetic pollution can hurt wildlife and the steps that could be taken to lessen the impacts.

But the FCC has been unresponsive, Manville said, arguing the agency tends to accommodate the industry it's supposed to regulate.

"That's unfortunate, but that's just the way it is," he said.

The FCC did not respond to questions about whether it would consider making efforts to reduce animals' EMF exposure.

The three authors drew from 1,200 peer-reviewed studies to compile a three-part, 210-page report titled "Effects of non-ionizing electromagnetic fields on flora and fauna." It was published in the journal *Reviews on Environmental Health*.

Science journalist Blake Levitt, lead author of the report, said they dug up overlooked studies that contained compelling research on how living organisms react to low-level EMFs. Their compilation invalidates any claims that the EMFs don't cause biological effects, she said.

"We just blew the whole thing out of the water and took it to the ecosystem level, which is really where it needed to go," Levitt said. "Nobody had done that before. We need a whole lot more scrutiny put to the low-intensity stuff."

Ambient EMFs have risen exponentially in the past quarter-century, as cellphones were widely adopted, to become a ubiquitous and continuous environmental pollutant, even in remote areas, the

report said, adding studies indicate EMFs can affect animals' orientation, migration, food finding, reproduction, nest building, territorial defense, vitality, longevity and survival.

EMFs' toxic effects on an animal's cells, DNA and chromosomes have been observed in laboratory specimens — and thus would apply to wildlife, according to the report.

Many types of wildlife are exposed to EMFs from wireless sources, such as deer, seals, whales, birds, bats, insects, amphibians and reptiles, the report said. Many species have been found more sensitive to EMFs than humans in some ways.

The report recommends new laws that include the redesign of wireless devices and infrastructure to reduce the rising ambient levels.

It comes several months after a federal court in Washington, D.C., [ordered the FCC to review its guidelines for wireless radiation](#) and justify why it should retain them, as the standards haven't been updated since 1996. This radiation should not be confused with radioactivity, the court noted, adding microwaves used in transmitting signals are low enough to not heat tissues in what are known as "thermal effects."

But medical studies suggest the lower-level radiation could cause cancer, reproductive problems, impaired learning and motor skills, disrupted sleep and decreased memory.

These studies and others were submitted to the FCC after it opened a notice of inquiry in 2013 under the administration of former President Barack Obama to probe the adequacy of the 1996 guidelines, which were geared toward avoiding thermal effects, the court said.

In 2019, the Trump administration's FCC deemed the inquiry unnecessary, saying the 1996 rules were sufficient and required no revision.

Two judges called that FCC action "arbitrary and capricious," saying the FCC made the decision out of hand, ignoring all the science presented and offering no reasonable, fact-based argument to back it up.

Santa Fe New Mexican, [Report says wireless radiation may harm wildlife](#) by Scott Wyland 2/07/2022

The agency also failed to look at the technological developments in the past 25 years and how they've changed the degree of exposure, the judges wrote. And they said it refused to examine possible health effects from EMFs that fall below the threshold set in 1996.

“When an agency in the commission’s position is confronted with evidence that its current regulations are inadequate or the factual premises underlying its prior judgment have eroded, it must offer more to justify its decision to retain its regulations than mere conclusory statements,” the judges wrote.

“Rather, the agency must provide ‘assurance that [it] considered the relevant factors,’ ” they added.

The FCC’s reluctance to ensure wireless transmissions are safe for human health extends to wildlife, even as 5G technology gains momentum, said Theodora Scarato, executive director of the Environmental Health Trust, a nonprofit think tank that led the petition against the FCC.

Scarato said her group is promoting the wildlife report to fill a crucial gap in wireless oversight.

She plans to submit the report to the FCC as it conducts its new review of wireless radiation, with the hope the report will go on the record and be considered when crafting future rules.

Regulators need to determine how much EMFs must be curbed to safeguard flora and fauna, she said.

“What is a limit for a person is going to be different” than for animals, Scarato said.

The study notes EMFs can disrupt the Earth’s natural magnetic fields that birds, cats, fish and other animals use to navigate and orient themselves.

Towers keep the EMFs away from people on the ground but leave birds vulnerable because they fly near the transmitters and even perch on them, Scarato said.

“Air needs to be designated as habitat,” she said. “And EMFs need to be regulated like other pollutants.”

The transmissions can disorient bees, causing them to become lost, not return to their hives and die, Manville said.

The bees are already threatened by pesticides and climate change, he said. “It’s death by a thousand cuts.”

If they have a mass die-off, it could be disastrous for growers that depend on them to pollinate crops, he added.

Manville said as a federal biologist, he pushed to get the Interior Department to establish an environmental review that covered how new sources of wireless radiation would affect wildlife. Interior officials were receptive in 2014, but his proposal stalled at the Commerce Department, which was in charge of internet technology, he said. Then later, the Trump administration scrapped it.

Scarato said this “landmark paper” could be the catalyst for creating wildlife guidelines.

“The challenge before us is there isn’t an environmental agency who’s even looking at the science at this time,” she said. The study’s authors “make the case for regulations that we need.”

Scott Wyland

Reporter

Wildlife Review Scientific References

Levitt BB, Lai HC, Manville AM. [Effects of non-ionizing electromagnetic fields on flora and fauna, Part 3. Exposure standards, public policy, laws, and future directions.](#) Rev Environ Health. 2021 Sep 27. doi: 10.1515/reveh-2021-0083. Epub ahead of print. PMID: 34563106.

Levitt BB, Lai HC, Manville AM. [Effects of non-ionizing electromagnetic fields on flora and fauna, part 1. Rising ambient EMF levels in the environment.](#) Rev Environ Health. 2021 May 27. doi: 10.1515/reveh-2021-0026. Epub ahead of print. PMID: 34047144.

Levitt BB, Lai HC, Manville AM. [Effects of non-ionizing electromagnetic fields on flora and fauna, Part 2 impacts: how species interact with natural and man-made EMF.](#) Rev Environ Health. 2021 Jul 8. doi: 10.1515/reveh-2021-0050. Epub ahead of print. PMID: 34243228.

