



AFTER THE STORM

HELP BEGAN POURING INTO ONE OF THE POOREST REGIONS OF THE U.S. AFTER A DEADLY TORNADO WROUGHT A PATH OF DESTRUCTION IN THE MISSISSIPPI DELTA. **A4**

SCIENCE

Can the dogs of Chernobyl teach us new tricks on survival?



More than 35 years after the world's worst nuclear accident, the dogs of Chernobyl, Ukraine, somehow still able to find food, breed and survive. "Even though they're wild, they still very much enjoy human interaction," says a researcher. *Timothy Mousseau via AP*

Laura Ungar *Associated Press*

The canines that scientists are studying appear to be descendants of pets that residents were forced to leave behind when they evacuated the area around a Ukraine power plant in 1986.

More than 35 years after the world's worst nuclear accident, the dogs of Chernobyl roam among decaying, abandoned buildings in and around the closed plant — somehow still able to find food, breed and survive.

Scientists hope that studying these dogs can teach humans new tricks about how to live in the harshest, most degraded environments, too.

They published the first of what they hope will be many genetics studies earlier this month in the journal *Science Advances*, focusing on 302 free-roaming dogs living in an officially designated "exclusion zone" around the disaster site. They identified populations whose differing levels of radiation exposure may have made them genetically distinct from one another and other dogs worldwide.

"We've had this golden opportunity" to lay the groundwork for answering a crucial question: "How do you survive

in a hostile environment like this for 15 generations?" said geneticist Elaine Ostrander of the National Human Genome Research Institute, one of the study's many authors.

Fellow author Tim Mousseau, professor of biological sciences at the University of South Carolina, said the dogs "provide an incredible tool to look at the impacts of this kind of a setting" on mammals overall.

Chernobyl's environment is singularly brutal. On April 26, 1986, an explosion and fire at the Ukraine power plant caused radioactive fallout to spew into the atmosphere. Thirty workers were killed in the immediate aftermath, while the long-term death toll from radiation poisoning is estimated to eventually number in the thousands.

Researchers say most of the dogs they are studying appear to be descendants of pets that residents were forced to leave behind when they evacuated the area.

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HAZARDOUS WASTE

Lawmakers want more public toxic dumping notice

Changes in public notification are being considered for hazardous waste shipments, state lawmakers say.

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LANSING — Lawmakers want more public notification when hazardous waste is shipped to Michigan, following an uproar over the surprise disposal of Ohio train derailment waste at a landfill and deep injection well in metro Detroit.

State Sen. Darrin Camilleri, D-Trenton, testified a House Ethics and Oversight Committee hearing that changes are being considered to notification requirements when hazardous waste enters Michigan.

"Moving forward, our goal is to work with stakeholders to determine whether (the law) needs to be reformed to ensure that hazardous materials are safely disposed of in Michigan," Camilleri testified on Thursday. "It's clear that there are some faults that need to be fixed here.

"We've already begun looking into ways to change notification requirements so that local, state and federal officials can be aware of what's coming into their communities."

Camilleri was among lawmakers from both parties who lambasted the surprise import of toxic waste from the disaster in East Palestine, Ohio, to the U.S. Ecology Wayne Disposal Landfill in Belleville and an injection well in Romulus last month.

Officials in Wayne County, where Republic Services operates the injection well and the hazardous waste landfill, said they were blindsided by the shipments and scrambled to halt them after learning large quantities had already arrived.

The communities have a tense relationship with the disposal sites — particularly the Romulus well, which has a troubled history under a prior owner and accepts waste over the objection of city government, local officials have said.

"The city of Romulus has been opposed to this well for 30 years," said Romulus Mayor Robert McCraight. "We've never had an agreement with this well.

"Our continued objections to operation of this site have been ignored," McCraight said.

According to the Michigan Department of Environment, Great Lakes and Energy, about 313,800 gallons of vinyl chloride-laden wastewater in 63 loads from the Ohio derailment cleanup were injected 4,600 feet underneath Romulus between Feb. 20 and Feb. 24.

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A view of the site Feb. 24 as the cleanup continues at the site of a Norfolk Southern freight train derailment that happened Feb. 3 in East Palestine, Ohio. *Matt Freed, AP*

TED IN MICHIGAN

Global climate summit coming to Michigan

TED Countdown is coming to Detroit, a global climate conference with planned TED Talks, field trips, and more.

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DETROIT — An international climate conference will come to Michigan this summer for a series of TED Talks meant to accelerate environmental action on a global scale.

TED Countdown will host its second climate action summit July 11-14 in Detroit.

The event will feature TED Talks on real-world climate solutions and immersive field trips with local innovators pursuing sustainability.

The guest list will feature those among the world's top thinkers and innovators on climate solutions.

The four-day climate conference will include hundreds of participants attending more than 40 TED Talks, interviews and performances, as well as breakout sessions on topics such as regenerative agriculture and how to fund climate adaptation.

TED Countdown is a global initiative dedicated to accelerating solutions to the climate crisis. This year's event will include the inaugural TED Future Forum, a program focused on the role of business

in climate action.

Cynthia Williams, global director of sustainability for Ford Motor Co., said the community is thrilled to welcome the TED conference to Detroit.

"People everywhere are looking to businesses like Ford for solutions and urgency in responding to climate change. We look forward to putting our minds and resources together — in what we believe will be a powerful collaboration — to help shape a future for transportation that's more inclusive, equitable and sustainable," Williams said.

Among the expected areas of focus are how the United Nations' global analysis of the climate progress reframes **SEE TED COUNTDOWN, A3**

