Union of Concerned Scientists

Catalyst

Volume 24, Spring 2024

Tyson's Toxic Legacy

Polluting water with impunity

A Task Force to Strengthen Our Democracy

Electric Vehicles at a Turning Point

[Union of Concerned Scientists

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Our Democracy Needs Science

By Jennifer Jones

A year ago, I left a faculty job at a large public university in my home state of Florida to join the Union of Concerned Scientists as the director of the Center for Science and Democracy. I had watched anti-science Florida politicians deny the mortal threat posed by human-induced climate change even as my own town was hit by Hurricane Ian, and as scientists are amassing ever-stronger evidence that similar storms are rapidly intensifying as the oceans warm. I had seen them threaten public health to the point where Florida now faces a measles outbreak because the state's surgeon general continues to encourage unvaccinated children to go to school. And I had a front-row seat as our politicians sought to suffocate the quest for knowledge by banning books, limiting academic freedom, and intimidating professors.

Of course, the problems are bigger than Florida. The latest Academic Freedom Index found that academic freedom throughout the United States has worsened in recent years. The American Association of University Professors defines academic freedom as "the freedom of a teacher or researcher in higher education to investigate and discuss the issues in his or her academic field, and to teach or publish findings without interference from political figures, boards of trustees, donors, or other entities . . . as well as to speak freely as a citizen." A decline in academic freedom matters not just for higher education. It is a fundamental value to those of us who believe in science and the search for knowledge to improve the human condition.

The Center for Science and Democracy at UCS stands at the forefront of advocating for academic freedom through our work on scientific integrity, which seeks to protect science and scientists from political interference. I came to UCS because I've seen firsthand how much is at stake and I know that scientific data and evidence have the power to make our lives better.

Science can make our democracy stronger too, as you will read about in the story on our work on the science of elections (p. 14). From health care to agriculture and cleaner transportation systems, UCS is putting science to work to build a more safe, just, and sustainable world; I'm glad to be part of it, and grateful that your continued support makes all this work possible. {C}

Jennifer Jones *is director of the Center for Science and Democracy at UCS. Read more from Jennifer on our blog,* The Equation*, at https://blog.ucsusa.org.*

Photos: Vlad Tchompalov/Unsplash (protest); Tara Rice (Jennifer Jones)

UCS ON THE RECORD . . . AND HAVING AN IMPACT

"The bill must still pass the House. . . . [Legislators] have a critical opportunity to . . . do the right thing for those harmed by decades of nuclear testing and production. Otherwise, what are our lives worth?"

***MARY DICKSON**, a writer, activist, and "downwinder" who has worked with UCS to expand the benefits for survivors of nuclear weapons production and testing, in an op-ed for the* Salt Lake Tribune *advocating to expand the Radiation Exposure Compensation Act (RECA) (see p. 18)*

"It is critical to have heat protection standards in place given summers like last year—especially in places like Florida and Texas—because extreme heat is only going to get more frequent and more severe over time."

***KRISTINA DAHL**, UCS principal climate scientist, quoted in an article in* The Guardian *about the Florida legislature passing a bill banning its towns and counties from enacting heat protections for outdoor workers*

"These rules are the strongest standards ever finalized and vital for meeting US climate goals. Today's announcement will shift the trajectory of the automobile market and put us on a path to real emissions reductions, with an estimated 7.2 billion tons of global warming pollution avoided by 2055."

***STEVEN HIGASHIDE**, director of the UCS Clean Transportation Program, from a press statement about the EPA's new light-duty vehicle standards issued in March (see p. 22)*

"After years of pressure from community advocates and public health experts, the EPA has acted to reduce the risks from PFAS [per- and polyfluoroalkyl substances] in drinking water. These new rules are based on the overwhelming scientific evidence that PFAS contamination is widespread and poses real risks to people exposed to it, especially infants and children. Millions of people across the country . . . are exposed to these toxic chemicals. This is an overdue but vital effort to help keep the water we drink safe."

***JENNIFER JONES**, director of the Center for Science and Democracy at UCS, in an April 10 statement. UCS was part of a successful lawsuit last year that helped ensure better monitoring and reporting on PFAS releases.*

"With each month and with each year that these cases are stalled, the impacts for communities just grow. . . . We can't sit back and argue whether or not climate change played a role in extreme weather or public health problems that we're facing today, because attribution science shows that it does—and can calculate what that role was."

***DELTA MERNER**, lead scientist for the UCS Science Hub for Climate Litigation, from a story in* Grist *about the dozens of lawsuits filed against fossil fuel companies in the United States*

[IN THIS ISSUE]

With Push from UCS, EPA Strengthens Ethylene Oxide Protections

UCS Senior Analyst Darya Minovi has spent much of the past two years assessing the dangers posed by emissions of the carcinogenic gas ethylene oxide (EtO) to communities near certain EtO-emitting facilities. She's publicized her findings in the media and advocated alongside UCS supporters for the US Environmental Protection Agency (EPA) to require such facilities to limit their emissions. The EPA was a decade overdue on reviewing and updating these standards, and in the meantime, companies emitting the toxic gas—mostly medical equipment sterilization facilities—were polluting with few restrictions, risking the health of workers and people living nearby. The 2023 UCS report *Invisible Threat, Inequitable Impact,* with research led by Minovi, found that nearly 14 million people in the United States, including many communities of color, live within five miles of an EtO-emitting sterilization facility, elevating their risk for cancer. (Read the report at https://act.ucsusa.org/sp24-eto-report.)

"For far too long, communities across the country, especially Black and Brown people and those who do not speak English as a first language, have been exposed to ethylene oxide. The EPA's own research has shown for nearly a decade how dangerous this chemical is," says Minovi.

This March, Minovi's and others' efforts were rewarded when the EPA issued a final rule that tightens emissions limits at commercial sterilizing facilities, significantly reducing the risk of EtO exposure for workers and communities where these facilities are located.

"The public health benefits that will be afforded to communities through this action are a testament to the efforts of grassroots advocates and public health experts who didn't let up in their demands," says Minovi. Indeed, the EPA's final rule implemented stronger emissions controls than its original proposal—a change that the agency specifically attributed to comments submitted by UCS and our partners.

Minovi says that while industry attempted to influence the EPA's decisionmaking process to significantly weaken the standards, the new rules will help protect people's health—and could also go further.

"There are areas where the standards fall short of the requests made by countless community members and advocates," she says, citing the EPA's decision to extend a timeline by which companies must comply with these regulations.

"The fight isn't over. Sterilizers are a significant source of ethylene oxide, but not the only one, and the EPA has more work ahead in limiting the harms of this dangerous chemical," says Minovi. UCS will build on this victory by continuing to push the EPA to ensure proper monitoring and enforcement to reduce EtO pollution and protect public health.

Photo: Atlanta Journal-Constitution

ExxonMobil Quitting Trade Group Shows Public Pressure Works

This January, ExxonMobil quietly revealed that it had canceled its membership with the Independent Petroleum Association of America (IPAA) because of its "misalignment" with the company's professed goal of "helping society achieve its ambition for a net-zero future." The revelation came as part of the company's 2022 Climate Lobbying Report, which it just made public in January of this year. In 2022, ExxonMobil reports having paid the IPAA between $100,000 and $500,000 for lobbying related to "energy and the environment" and "regulatory issues."

The IPAA is best known for publishing "Energy in Depth," an oil industry disinformation website launched in 2009. According to a *New York Times* investigation, ExxonMobil had a hand in determining the editorial direction of the site, which asserts, among other things, that oil and gas have "improved air quality for the entire global population."

Although ExxonMobil maintains memberships with other oil and gas trade groups trying to block government action on climate, UCS corporate analyst Laura Peterson calls the company's withdrawal from the IPAA a "victory."

"ExxonMobil's decision to cut ties with the most notorious purveyor of disinformation in its trade group roster may not be a sign that the company is on the road to reforming itself," she says. "But it is a sign that pressure by advocacy and shareholder groups is working."

Smith Medal Awarded to UCS Scientist

Brenda Ekwurzel, UCS climate scientist and science communicator, addressed graduating seniors at her alma mater, Smith College, at a ceremony in February during which she was presented with the Smith Medal. The award was established "to recognize alums who exemplify in their lives and work 'the true purpose' of a liberal arts education," according to the college. Ekwurzel was honored for her career achievements bringing scientific analysis to inform public policy changes—and "improving the world through her work."

¿Has escuchado el podcast en español de UCS?

Ciencia Consciente, presentado por Michelle Rama-Poccia, entrevista a expertos en ciencia, tecnología y políticas públicas sobre los problemas más urgentes y soluciones más innovadoras del planeta, particularmente aquellos que más afectan a las comunidades latinas en los Estados Unidos. Escucha en https://act.ucsusa.org/sp24-podcast.

CIENCIA CONSCIENTE

Photos: JHVEPhoto/Adobe Stock (ExxonMobil); Shana Sureck (Brenda Ekwurzel)

THE AVERAGE POSTAL ROUTE IS **JUST 21 MILES PER DAY**, MAKING THE USPS DELIVERY FLEET PERFECT FOR ELECTRIFICATION.

A Cleaner Way to Deliver the Mail

The iconic mail trucks of the United States Postal Service (USPS) are boxy, utilitarian, and abundant—so abundant, in fact, that they make up one of the world's largest fleets, with about 250,000 vehicles in service. The most common model, the workhorse Grumman LLV, is a terribly inefficient vehicle: most get about 10 miles per gallon and are about a decade past their prime, having have been in service since the early 1990s. The vehicles don't even have air conditioning, creating brutal work conditions for drivers working in extreme heat.

Fortunately, the USPS is taking steps to modernize its fleet, including procuring electric vehicles (EVs) and installing associated charging infrastructure to support them. Its original plans committed to electrifying just 10 percent of its delivery vehicles. But thanks to the relentless advocacy of the Union of Concerned Scientists and partners such as Earthjustice and the Sierra Club, as well as groups including Public Citizen and Americans for Financial Reform, and funding from the Inflation Reduction Act, the USPS has committed to electrifying more than half of its vast fleet.

Because roughly 98 percent of postal routes are less than 70 miles long, with an average length of 21 miles, the USPS delivery fleet is perfect for electrification. The new designs of its Next Generation Delivery Vehicle can run on smaller batteries than an average EV because of the predictable low daily mileage they require. EVs with smaller batteries can mean a more sustainable approach because less material is needed to build them, reducing potential environmental and social impacts associated with EV battery mineral mining.

So, when can you expect to see the new vehicles delivering mail in your neighborhood? The USPS debuted the first of its new electric delivery vehicles and charging stations at one of its sorting and delivery centers in Atlanta, Georgia, in January 2024. Expansion to other areas is expected to happen in the months ahead.

This fleet modernization meets the critical moment of climate change mitigation, minimizes public health impacts from toxic tailpipe pollution, and is likely to save the USPS millions of dollars in annual maintenance and fueling costs. It could also set an example for many commercial fleets to move away from diesel (and its toxic tailpipe pollution) to electrify their vehicles as well.

UCS cheers this positive step toward a healthier future. But we will also continue to monitor the initiative to make sure the USPS maintains its commitments. We're also continuing our advocacy for electrifying the USPS long-haul logistics fleets—an especially important next step given their share of soot (lung-damaging fine particulate pollution), smog-forming nitrogen oxide pollution, and global warming emissions. And, of course, we're continuing to push to electrify the broader US freight system for all the public health and environmental benefits that it can bring.

Photo: eqroy/Adobe Stock

USDA Appropriations Bill Includes UCS Priorities

Legislation funding the US Department of Agriculture (USDA), signed into law this spring, included investments in many critical programs relating to food security, agriculture, and nutrition that UCS has advocated for in coalition with partners and supporters. For example, the USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (known as WIC) received an increase of $1 billion in funding for this fiscal year, which means the program should be able to meet the needs of every mom and baby who relies on it. The Supplemental Nutrition Assistance Program (SNAP) was fully funded, and a proposed pilot program to limit its benefits was not included in the bill. The Agricultural Research Service also received an increase in funding, with some additional research funding directed toward improving soil health.

Unfortunately, the funding package also included small but significant cuts to several other key agricultural programs, including several that operate at the intersection of agriculture and climate change. However, planning is already under way for agricultural appropriations for the next fiscal year, and the Biden administration has proposed boosting the USDA budget and increasing funding for climate, nutrition, conservation, and agricultural research programs. Now is a great time to reach out to your representatives in Congress—especially if they sit on an appropriations committee—to let them know that you want to see an agriculture appropriations bill that includes strong funding for climate, conservation, agricultural research, equity, and nutrition programming.

GOOD NEWS FOR GIVING THROUGH YOUR RETIREMENT ACCOUNT

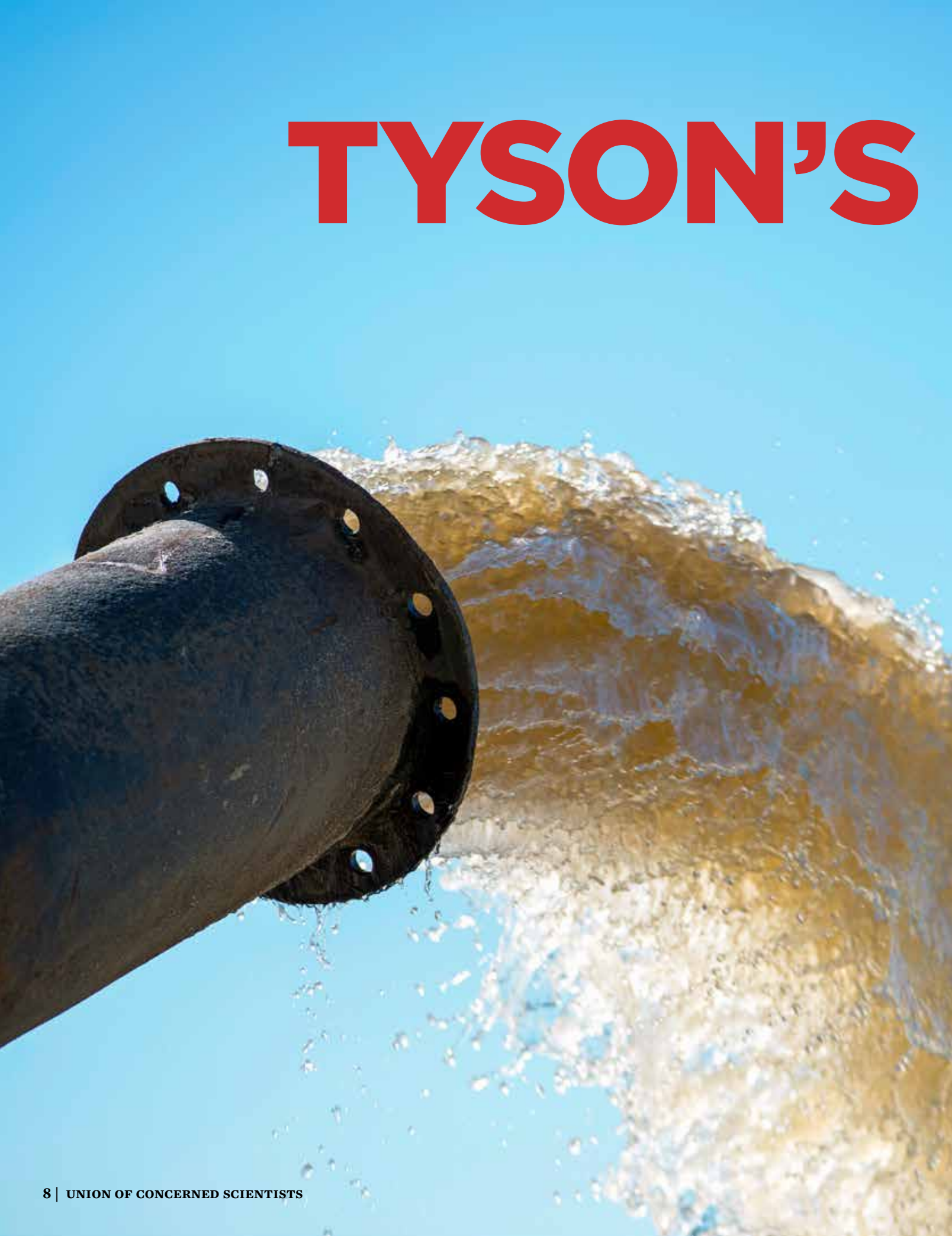
Take advantage of higher limits on charitable gifts from your IRA! The 2022 Legacy IRA Act introduced the first increase in qualified charitable distributions (QCDs) in nearly 20 years. This legislation allows for annual increases in gift limits, which means that in 2024, individuals 70 ½ and older can make up to $105,000 in qualified charitable distributions from their IRAs to charities ($210,000 for couples). Even better, charitable gifts from retirement accounts fulfill a portion of required minimum distributions and there is no tax due on the withdrawal. Learn more at https://act.ucsusa.org/sp24-ira.

UCS Board Member Honored with 2024 John J. Carty Award

UCS board member Ben Santer, known for his leading research linking climate change to human activities, has won the National Academy of Sciences' John J. Carty Award, presented every two years to an honoree with "noteworthy and distinguished accomplishments" in any field of science under the organization's charter. Santer, a Fowler Distinguished Scholar in Residence at the Woods Hole Oceanographic Institution and a visiting research scientist at the University of California–Los Angeles, worked as an atmospheric scientist at Lawrence Livermore National Laboratory for nearly 30 years. His research on the human "fingerprints" in climate records has inspired and informed UCS climate attribution work tying specific impacts of climate change to fossil fuel producers. Santer is also a MacArthur (genius grant) Fellowship recipient, a Procter Prize winner, and was awarded the American Meteorological Society's Rossby Medal in 2023.

Photos: Odua Images/Adobe Stock (supermarket); George Kitrinos/LLNL (Ben Santer)

TYSON'S



TOXIC LEGACY

New UCS research on the food company's water pollution sheds further light on a bad actor in a food system in dire need of oversight.

BY BRYAN WADSWORTH

If you eat meat or poultry, it's hard to avoid products sold by Tyson Foods. The company is the world's second-largest producer of chicken, pork, and beef; it owns brands including Ball Park, Hillshire Farm, and Jimmy Dean; and it supplies chicken nuggets to school cafeterias and McDonald's.

But even if you *don't* eat meat or poultry, you may not be able to avoid the company's impact on our planet. Its reliance on corn and soybeans for animal feed, its consolidation of farmland into ever larger parcels devoted to these crops, and its continuing use of unsustainable farming methods are depleting our soil of nutrients, increasing the risk of erosion in extreme weather, and releasing more heat-trapping gases into the atmosphere.

The new Union of Concerned Scientists report *Waste Deep: How Tyson Foods Pollutes US Waterways and Which States Bear the Brunt* shows another aspect of the company's destructive practices: the vast amount of hazardous wastewater Tyson releases into our environment. This report marks the final installment in a series of UCS analyses that specifically target Tyson and various aspects of its harmful business practices (see the box on p. 11 for a recap of our previous work).

Meat processing—the slaughtering of animals raised for food—requires large quantities of water for washing animals, cleaning meat, sanitizing equipment, and scrubbing work areas. In 2022 alone, "Tyson plants processed millions of cattle and pigs and billions of chickens, and discharged over 18.5 billion gallons of wastewater—enough to fill more than 37,000 Olympic swimming pools," says report co-author Omanjana Goswami, an interdisciplinary scientist in the UCS Food and Environment Program.

This wastewater can contain animal blood and feces, and carry deadly bacteria like *E. coli*, as well as nitrogen and phosphorus that promote algae growth, which deprives fish and shellfish of the oxygen they need to live. Fecal coliform bacteria can cause illness ranging from minor gastrointestinal distress to death, especially in very young or elderly people, or people with compromised immune systems. And nitrate pollution can affect people as well: algal blooms are linked to increases in respiratory symptoms such as pneumonia, bronchitis, and asthma in people living near the water, and drinking well water contaminated with nitrates is associated with the blood disorder methemoglobinemia, neural tube defects in infants, and colorectal cancer and thyroid disease in adults.

WHERE THE WASTE GOES

UCS studied publicly available data from the US Environmental Protection Agency (EPA) and found that, over the course of five years (2018 through 2022), Tyson's meat processing plants dumped almost 372 million pounds of waste directly into waterways or sprayed it onto land, where it can seep into groundwater. Meat processing is only one part of the company's operations, and Tyson pollutes water resources in other ways we did not attempt to analyze. For example, the corn and soybeans that comprise the bulk of animal feed are fertilized with unnecessarily large amounts of nitrogen, phosphorus, and manure, all of which can run off into waterways, and the concentrated animal feeding operations (CAFOs, or "factory farms") where animals are fattened for slaughter produce both air and water pollution.

Seventeen states have Tyson meat processing plants that reported wastewater discharges (see the map), but a few of these states receive most of the waste—almost one-third is discharged into bodies of water in Nebraska alone. Illinois, Michigan, and Missouri account for another third, and when you add Arkansas (Tyson's home state) and Pennsylvania, these six states are the unfortunate recipients of almost 90 percent of this pollution. Certain communities also stood out as being at risk from plants that are high-volume polluters: Tyson's facility in Dakota City, Nebraska, for example, dumped 60 million pounds of pollutants over five years. Other at-risk towns include Joslin, Illinois; Zeeland, Michigan; and New Holland, Pennsylvania; together, these four communities are home to more than 13,000 people.

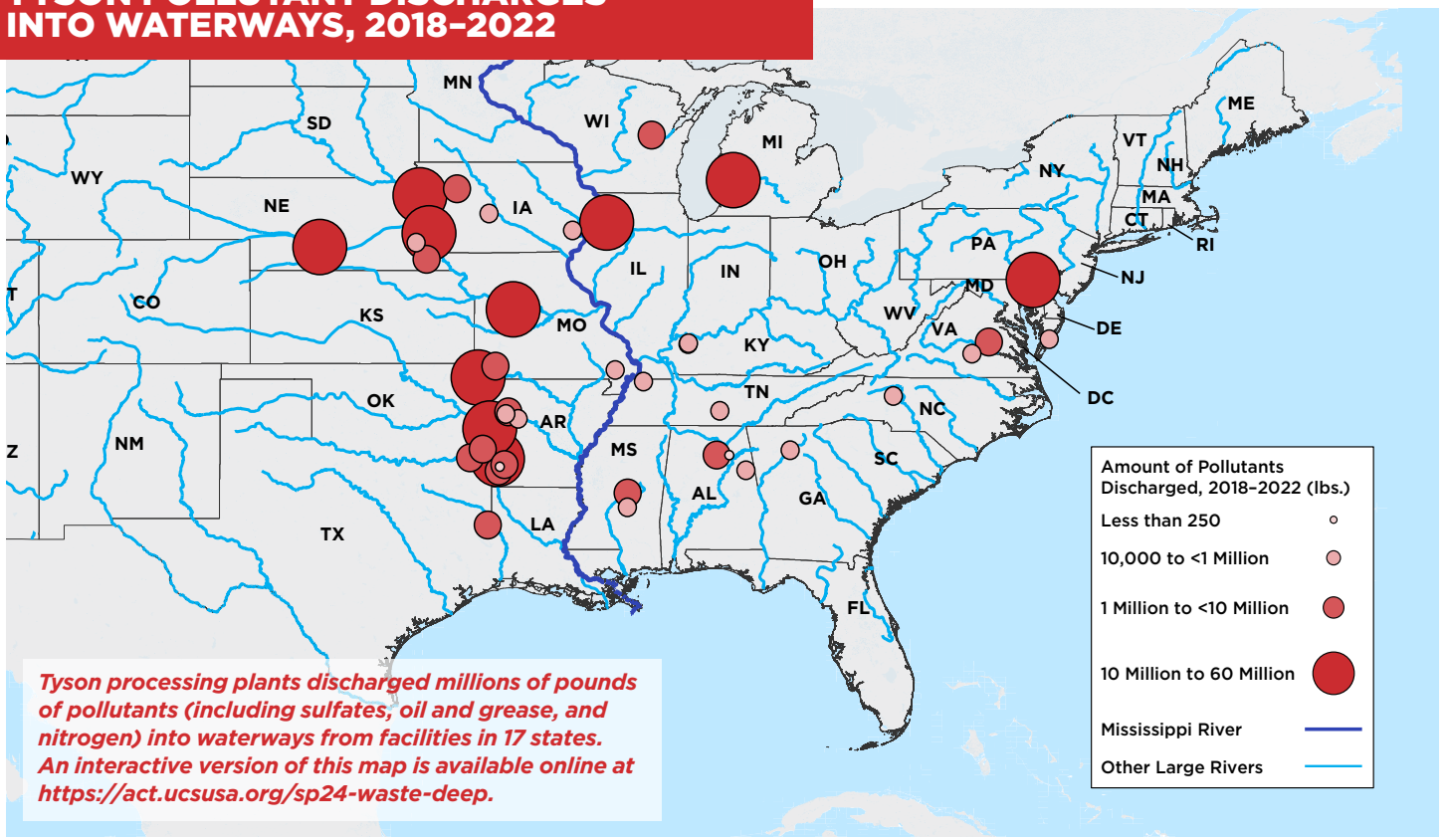
"Pollution from these plants raises environmental justice concerns," says Stacy Woods, report co-author and research director in the UCS Food and Environment Program. "We know from previous research that almost 75 percent of water-polluting meat and poultry processing facilities are located within one mile of communities that already shoulder heavy economic, health, or environmental burdens. We found Tyson's facilities largely fit that pattern."

Of course, water pollution doesn't stay in one place. As earlier UCS research has demonstrated, pollutants from Midwest agricultural operations make their way into the Mississippi River and eventually the Gulf of Mexico, where they have caused a persistent "dead zone" larger than the state of Delaware.

ACTING WITH IMPUNITY

Tyson shareholders have called for the company to institute a water stewardship policy but have been repeatedly voted down. And when the company has been caught acting in violation of the federal Clean Water Act or other regulations, it has the cash to deal with even the highest fines. In 2018, for example, Tyson paid $2.5 million for an ammonia discharge in Missouri that killed more than 100,000 fish. In 2021, it paid $3 million to settle a lawsuit over an illegal wastewater discharge in Alabama.

TYSON POLLUTANT DISCHARGES INTO WATERWAYS, 2018–2022



Tyson processing plants discharged millions of pounds of pollutants (including sulfates, oil and grease, and nitrogen) into waterways from facilities in 17 states. An interactive version of this map is available online at https://act.ucsusa.org/sp24-waste-deep.

A LENGTHY DOSSIER ON TYSON MISDEEDS

A worker uses a high-powered hose to clean a meatpacking plant in Minnesota.

Since 2000, Tyson Foods and its subsidiaries have been fined a total of almost $300 million by the federal government for violations ranging from price fixing and anti-competitive practices to unfair wages, lax safety oversight, and environmental damage. UCS has been monitoring the company closely for the past four years. Our research to date reveals how Tyson's business practices hurt farmers, workers, and ultimately, all of us.

The 2021 UCS report *Tyson Spells Trouble for Arkansas* documented the near-monopoly Tyson holds on chicken in its home state, and the ways in which it has abused that power. At the time, the company controlled two-thirds of chicken processing in Arkansas, and while Tyson's market share grew (along with the number of chickens slaughtered), the state lost nearly 80 percent of its broiler chicken farms since 1978. This trend toward consolidation into larger and larger corporate-owned farms is mirrored nationwide.

With its billions in revenues, Tyson has successfully lobbied for weaker workers' compensation laws and, during the early days of the COVID-19 pandemic, the company placed ads threatening meat shortages unless its plants were allowed to reopen—which President Trump quickly ordered. The company did little to protect its workers from infection and, in some cases, deceived them about the risks. A joint investigation conducted by UCS, *The Guardian*, and an Arkansas-based grassroots organization (released at the same time as *Tyson Spells Trouble for Arkansas*) found that Tyson plant workers—many of whom are immigrants with little to no negotiating power—are commonly mistreated. In an industry that already has the country's highest rates of nonfatal injury and illness, Tyson's workers are threatened if they complain about being forced to work six-day weeks with only a single 20-minute break each day, or for taking too much sick time.

The 2022 UCS report *Tyson's Need for Feed* revealed the influence the company also wields over farming practices given how much farmland is effectively under its control: nearly 10 million acres—an area almost twice the size of New Jersey—are dedicated to producing the corn and soybeans that feed the animals in Tyson's supply chain. If Tyson seriously wanted to move toward sustainable farming practices on that land, its actions would help push US agriculture in a more positive direction. Instead, the company has made only token gestures. After committing in 2018 to achieve "improved environmental practices" on 2 million acres (a fifth of its total), three years later Tyson had taken only the initial steps on a mere 408,000 acres.

It's not enough to fine a $53 billion corporation like Tyson for isolated instances of wrongdoing when it is just one of a handful of even bigger corporations that all pursue the same harmful practices. We need stronger government oversight of Big Ag, and laws that encourage competition and protect workers.

Learn more about our Tyson research at https://act.ucsusa.org/sp24-Tyson.

The water pollution produced by Tyson's meat processing plants (and those of its competitors) is actually a bigger problem than our analysis suggests because, according to the EPA, only about 300 of the country's 7,000 plants are subject to federal pollution limits and required to report on their discharges. So the almost 372 million pounds of waste our analysis can definitively say Tyson discharged over five years is a drop in the bucket of this industry's total water pollution.

THE BIGGER PICTURE

Why did we choose to focus our research on one company exclusively? Its size and track record of violations certainly make Tyson worthy of the scrutiny. But a larger point is that Tyson is not an outlier—it has the most recognizable name among a group of large corporations collectively known as Big Ag, and it is emblematic of much of what has gone wrong with the US food system. While corporations named ADM, Bunge, and Cargill mostly fly under the public's radar, they—like Tyson—have taken advantage of all the giveaways and loopholes made available by the federal government, maximizing their profits and expanding their footprints at the expense of our health and our environment. Big Ag has effectively hijacked the US food system and, in the process, exploited workers and farmers, worsened climate change, depleted our soils, and put the future of US agriculture at risk.

We can begin to take back our food system with a federal food and farm bill that recognizes the damage Big Ag has done and sets out to undo it. This five-year, trillion-dollar package of legislation was supposed to have been passed last year but, as *Catalyst* went to press, it remained stalled in Congress. UCS is working to ensure this bill increases opportunity for small and midsize farmers (including Black farmers who have been pushed out of the system), makes healthy food more affordable and accessible, and tackles the pollution and climate impacts caused by companies like Tyson. {C}

Map: Heather Tuttle/UCS; Photos: Roman/Adobe Stock (p. 8), US Department of Labor (p. 11)

Insurers Need to Stop Fueling Climate Risks

INTERVIEW WITH RACHEL CLEETUS AND HANNAH POOR

UCS is a member of Stop the Money Pipeline, a coalition of more than 200 organizations working together to hold accountable the financial backers of high-polluting industries. Why are climate experts and activists now focusing on the insurance industry?

RACHEL CLEETUS: Even as the climate crisis is rapidly worsening, fossil fuel companies continue to increase their investments in new and expanded fossil fuel projects that are completely at odds with global climate goals. As a recent UN report points out, countries plan to produce double the amount of fossil fuels in 2030 than would be consistent with the goal of limiting global average temperatures below 1.5°C—and that includes a major expansion in the United States. These projects could not move forward without insurance companies to underwrite them or banks to finance them.

HANNAH POOR: Insurers are an important but often overlooked part of the system that enables fossil fuel expansion. Insurance companies are both investors in and insurers of the fossil fuel industry, so removing their support gets at both the finance and the insurance pieces. The theory as articulated by Stop the Money Pipeline is: "If we stop the flow of money, we stop the flow of oil."

So, insurance companies have a pivotal role to play in curbing emissions. What else is striking about their impact on fossil fuel production?

RACHEL CLEETUS: Continuing to provide insurance to large new and expanded fossil fuel projects is locking in long-lived infrastructure that will contribute significantly to heat-trapping emissions, climate impacts, and local environmental injustices for years to come. Ceasing to underwrite these kinds of risky and harmful projects would send a strong market signal to fossil fuel companies to reckon with their choices and would create more momentum toward clean energy across the economy.

HANNAH POOR: Clean energy projects also need financing, insurance, and permits to operate. The insurance industry can play an active role in supporting clean energy projects that align with a just transition away from fossil fuels.

Has public pressure worked to force large insurance companies to make changes to how they underwrite fossil fuel projects?

HANNAH POOR: There have been incremental gains with some insurance companies placing some restrictions on insuring oil, gas, and coal. However, big insurance companies are still far off the mark in terms of what the climate crisis requires. Local governments and organizations also have a role to play. For example, in 2020, Boulder County [Colorado] pledged to take these factors into account when assessing the companies insuring the county's assets. Last year, the county followed up by publishing a guide for local governments on decarbonizing their finances. The guide cited UCS research.

What else are advocates around the world doing to bring attention to this issue?

HANNAH POOR: Earlier this year, the Insure Our Future network, a leading campaign to hold the insurance industry accountable, organized a global week of action to call on insurance companies to respect human rights, support a just

RACHEL CLEETUS is the policy director of the UCS Climate and Energy Program. Cleetus has worked on US and international climate and clean energy policies for more than 20 years. She holds a PhD and an MA in economics from Duke University. Read more from Rachel on our blog, *The Equation*, at https://blog.ucsusa.org.

HANNAH POOR is the outreach coordinator for the UCS climate accountability campaign. That campaign has long focused on holding major fossil fuel companies—like BP, Chevron, ExxonMobil, and Shell—accountable for their decades of disinformation, delay of climate action, and the immense damage their products have caused to the climate and to communities around the world.

Photo: Gary Peeples/USFWS

> ***Continuing to provide insurance to fossil fuel projects is locking in long-lived infrastructure that will contribute significantly to heat-trapping emissions and local environmental injustices for years to come.***

clean energy transition, and stop enabling fossil fuels. People around the world brought a range of creative actions—from demand emails and rallies to choreographed dance and civil disobedience—directed at the offices of insurance companies across 31 countries and five continents. More than 10,000 UCS supporters contacted the executives of major insurers AIG and Chubb to tell them to stop enabling climate destruction. The week of action did push insurers to respond; some pledged to not insure certain fossil fuel projects and to seek further dialogue with campaigners. I'm eager to see what comes next.

In recent years major insurers have made headlines with their withdrawal from California, Louisiana, and Florida, in part due to the increasing cost of climate disasters like wildfires and hurricanes. How is this connected to the underwriting of fossil fuel projects?

RACHEL CLEETUS: It flies in the face of reason for insurance companies, on one hand, to insure large new fossil fuel projects that are contributing to heat-trapping emissions and worsening climate impacts—and on the other hand, say that those very same climate disasters are making some places uninsurable or only insurable at a very high cost. It's time for them to have a more coherent approach that helps limit societal and individual exposure to climate risks and doesn't result in lower-income communities and communities of color, who are often most exposed to climate risks, being cut off from affordable insurance.

It also sounds like insurance companies are contributing to factors that could put them out of business over the long term. What is the way forward for this industry?

RACHEL CLEETUS: There are some important steps we can take right now to improve the role property insurance can play in a warming world, including making scientific data on climate risks more widely and transparently accessible, providing incentives for actions that lower these risks, and using innovative tools like parametric insurance [which covers the probability of a predefined event such as a hurricane or earthquake happening, and pays according to a predefined scheme]. But insurance is not a panacea. We need a much broader and scaled-up suite of investments and policies to advance climate resilience and truly help protect people, livelihoods, infrastructure, and the economy. Federal and state regulators can play a strong role and must protect the interests of the public. They need to exercise more oversight over underwriting provisions and decisions of insurers. {C}

This interview was edited for length and clarity.

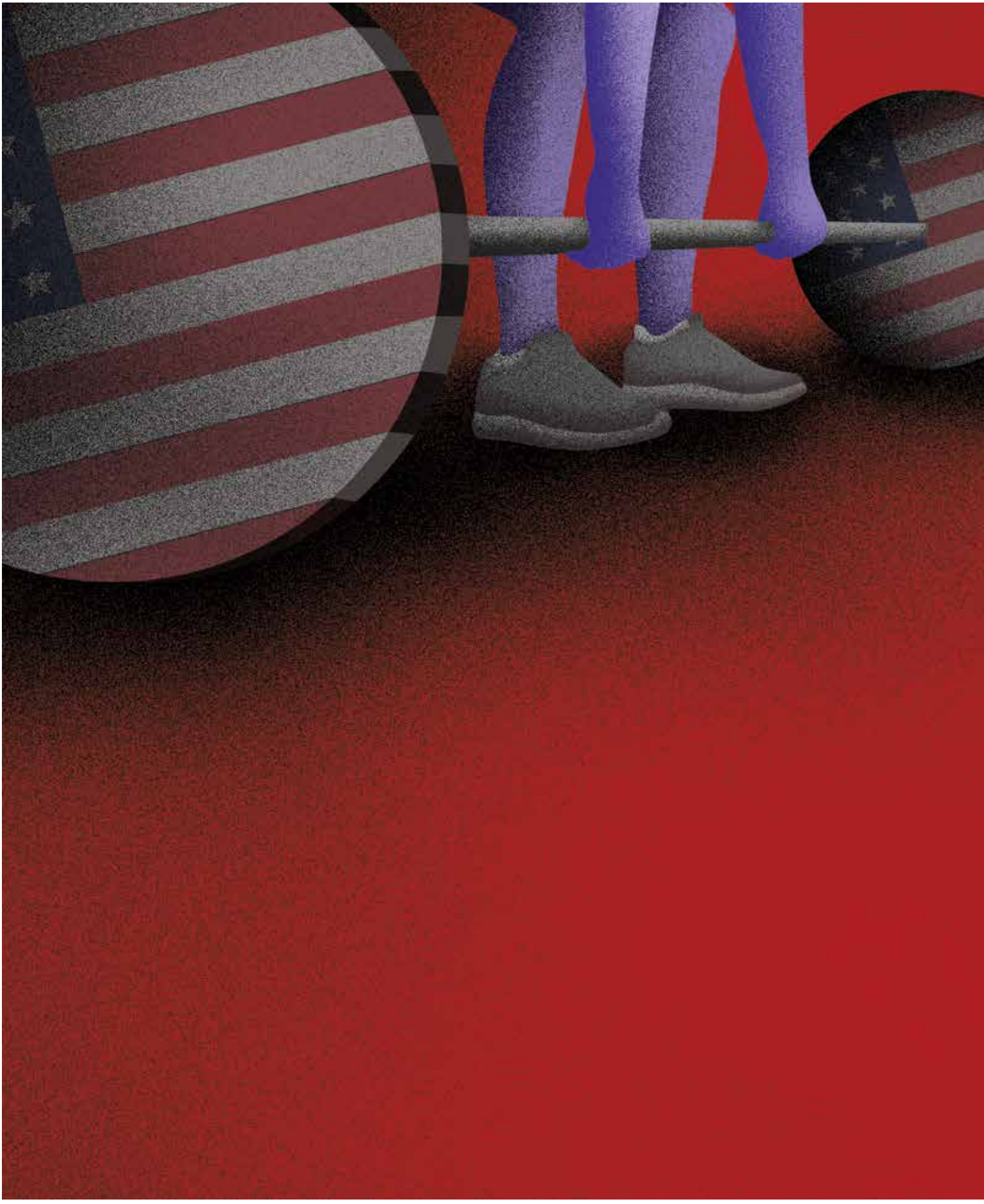


Illustration: Anthony Eyring/UCS

STRENGTHENING OUR ELECTIONS—AND OUR DEMOCRACY

UCS has assembled an expert Election Science Task Force to recommend best practices for states' handling of elections.

BY SETH SHULMAN

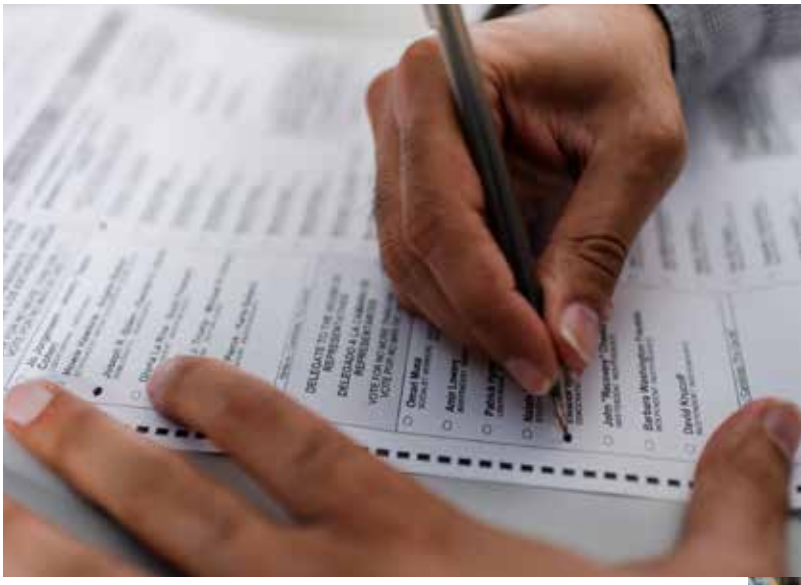
At the Union of Concerned Scientists, we recognize that protecting our democracy is more urgent than ever, and that it is also a precondition to building a healthier, safer, and more just world. UCS research has shown that people living in states with more open, less discriminatory election systems have better health outcomes. And we know that a healthy democracy matters for science too, because a government that's not accountable to the people it serves will listen to the most powerful interests rather than creating evidence-based policies that serve us all.

That's why, as part of its Science for a Healthy Democracy campaign, the Center for Science and Democracy at UCS has launched an Election Science Task Force. This project brings together more than 20 top election experts from across the United States, with members including Michigan Secretary of State Jocelyn Benson and former Pennsylvania Secretary of State Kathy Boockvar, along with other election officials, leading academics, voting rights activists, and election law specialists.

The goals for the group are to evaluate how US elections are administered across the nation and to use election science to identify best practices and make recommendations that states can implement to make our elections more free and fair.

"We've launched the Election Science Task Force because free and fair elections are vital for allowing voters to advocate for themselves and their communities," says Jennifer Jones, director of the Center for Science and Democracy at UCS. "Election science can help us identify evidence-based best practices to improve voter access, ensure fair representation, and increase public trust in the election process."

The Center's team has already identified three crucial areas where election science can play a role: drawing election districts, designing ballots, and handling election data.



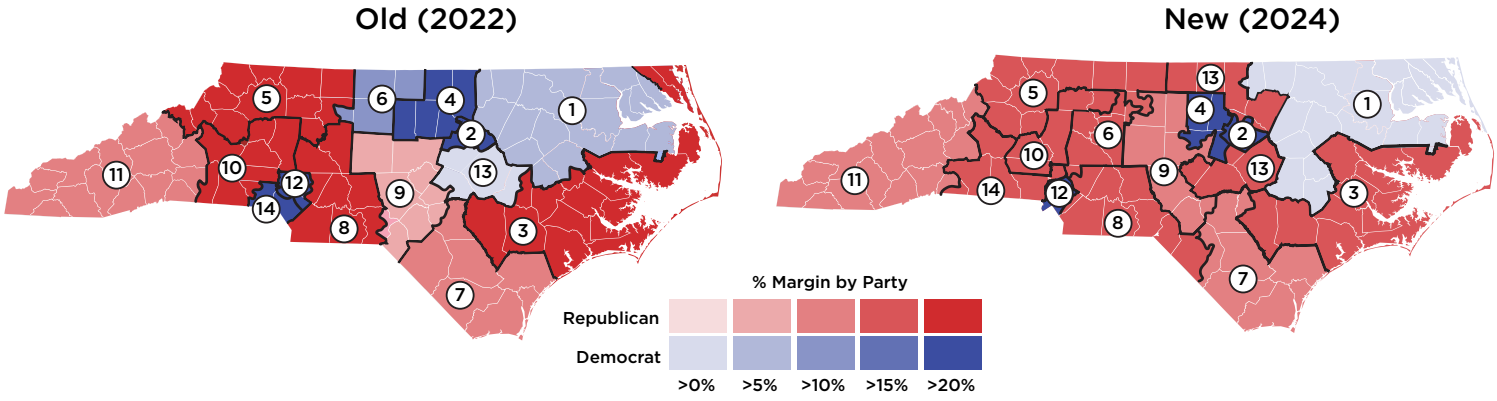
FAIRER DISTRICTS

One area the task force will address is so-called gerrymandering, in which—too often in recent years—election maps are drawn by partisan politicians to secure their own power rather than to accurately represent voters' interests. A report from the Center for American Progress last spring, for instance, found that 59 seats on average would have changed from one party to the other if the percentage of seats won had matched the percentage of votes cast during the 2012, 2014, and 2016 elections—with the discrepancy caused by unfairly drawn congressional districts. To put that in perspective, that's slightly more than the total number of seats apportioned to the 22 least-populated US states.

In North Carolina, for example, newly gerrymandered districts (see the map below) have now created 10 safely Republican districts, three safely Democratic districts, and one toss-up district, whereas overall voter registrations suggest the state's districts should be almost evenly divided between the two parties. (By way of comparison, Donald Trump won the state's popular vote in 2020 by just 50 percent to 49 percent.)

These gerrymandered districts can skew election outcomes in two distinct ways. The so-called "cracking" of districts

NEWLY GERRYMANDERED DISTRICTS IN NORTH CAROLINA, 2022 VS 2024



As the voting district maps above show, North Carolina Republicans have now managed to gerrymander 10 safely Republican voting districts, three Democratic districts, and one toss-up district in a state where voter registrations are nearly evenly divided between the two parties.

splits groups of people with similar characteristics, such as voters with the same party affiliation, across multiple districts, thereby diluting their voting strength in a given district. The "packing" of districts, meanwhile, crams certain groups of voters into as few districts as possible. In these few districts, the "packed" groups are more likely to elect their preferred candidates, but their voting strength is weakened everywhere else, often resulting in fewer elected officials overall who represent their interests.

Election science can help remedy these highly undemocratic outcomes, allowing us to establish clear standards that ensure district maps are drawn fairly and that redistricting processes are transparent and encourage public participation.

BETTER-DESIGNED BALLOTS

The task force is also looking at how science can be deployed to help improve ballot design. Science has shown that bad ballot design can lead to people voting for too many candidates in a contest ("overvotes"), failing to select any candidates in a contest ("undervotes"), or neglecting to vote in contests listed lower on the ballot ("ballot roll-off"). The evidence shows that hundreds of thousands of votes go uncounted every election because of poor ballot design and voter education materials.

Fortunately, well-designed ballots can reduce these kinds of unfair discrepancies, which keep too many people from having their votes counted. The task force will explore a number of possible remedies, such as requiring pre-election ballot usability tests and public comment periods. These practices can help identify ballot errors, confusing instructions, and issues with voting technology before elections take place.

DATA TRANSPARENCY

Finally, in a crucial area for democracy, the task force will make recommendations about how states can increase election data transparency. Transparent and consistent handling and communication of election data—such as voter registration numbers, the number of mail ballots sent and returned, and results—help increase trust in elections, reduce the potential for false claims of fraud to gain traction, and enable states to better assess their own election administration.

Leading up to the 2024 election, the task force will focus especially on election data preparedness and integrity in key swing states: Arizona, Georgia, Michigan, North Carolina, Ohio, Pennsylvania, and Wisconsin. We will analyze voter files and participation rates at the precinct level, track ballot rejection rates due to errors, and determine whether election administrators contacted voters to fix errors—a process known as ballot curing. In this way, the task force can identify processes that may be unfairly marginalizing voters.

Stay tuned for more on the Election Science Task Force's efforts and recommendations as we work toward science-based electoral reforms that make our democracy more free and fair for all voters. And to learn more about its work, please visit https://act.ucsusa.org/sp24-election-science. {C}

Map: Heather Tuttle/UCS; photos: Cavan Images/Getty (ballot), Saul Martinez/Getty Images (election workers)

My Days Fighting for Justice with Downwinder Communities

By Lilly Adams

2021-NOW: RECA WORKING GROUP

As part of my outreach work in the Union of Concerned Scientists' Global Security Program, I've had the privilege to work with some of the families exposed to radiation by the hundreds of US aboveground nuclear tests, and others harmed by the creation of our country's nuclear arsenal: uranium workers, nuclear production workers, and communities located near radioactive waste.

These frontline community members (often called "downwinders") want everyone to know that nuclear activities, such as the New Mexico Trinity Test featured in the recent Oscar-winning film *Oppenheimer*, turned their homes into sacrifice zones: contaminating their land, poisoning their people, and changing their lives forever. Many have died and endured chronic diseases like cancer as a result, and many are still fighting for the support and recognition that they need and deserve.

In 1990, to compensate for these harms, the US Congress passed the Radiation Exposure Compensation Act, or RECA. The program provides cancer screenings and one-time compensation to some people who were likely exposed to radiation from uranium mining and aboveground nuclear weapons testing.

While it's a valuable program, it also excludes many communities whose residents have been exposed for decades. And the program has limited benefits that do not go nearly far enough to address the devastating impacts of radiation exposure.

These communities are often Indigenous, communities of color, low-income, or rural communities who have largely been neglected by the government that poisoned them in the first place. For decades, these excluded groups have advocated for inclusion and improved support.

On July 16, the anniversary of the Trinity Test nuclear test, I spoke with anti-nuclear advocates outside a screening of Oppenheimer *in New York City, as they prepared for a vigil in solidarity with downwinders.*

Since 2021, after spending a lot of time learning what communities were working on in relation to RECA, in my role at UCS, I've been holding regular meetings for impacted community members or groups and allied organizations to learn and advocate together for RECA extension. Our group includes community members from Arizona, Colorado, Nevada, New Mexico, Texas, Washington, and even Guam, as well as local and national nonprofit organizations.

At our meetings, we share updates on Congress and relevant RECA legislation, and coordinate virtual and in-person meetings with legislators. We also share successes and disappointments, and help each other stay motivated. We've built a caring network that supports and uplifts each other through what can often be painful and even traumatic work.

JULY 2023: CANDLELIGHT VIGIL IN SOLIDARITY WITH DOWNWINDERS

The release of *Oppenheimer* in the summer of 2023 was a game changer for our work on RECA. On the positive side, it brought a huge amount of attention to the issue of nuclear weapons and the Trinity Test. However, the movie completely ignored the devastating impacts of that test, and all nuclear weapons tests and production, on downwind communities.

The film perpetuates a colonial narrative—the myth that these tests happened in remote, uninhabited places. But thousands of people lived near both the New Mexico and Nevada test sites. According to a 1997 National Cancer Institute study, tens of thousands to

Photo: Andrew Facini

Frontline community members convened in Washington, DC, to lobby their legislators in support of RECA. Mary Dickson, a downwinder from Utah, spoke about their efforts at a press conference.

possibly hundreds of thousands of people are expected to get cancer from the fallout from the 100 aboveground nuclear tests done in Nevada.

Because of this legacy of death and suffering, the downwinders of the Trinity Test in New Mexico hold a candlelight vigil every year on the anniversary of the test, July 16, where they remember their loved ones—sometimes entire families—who have passed away.

Universal announced that it would hold a special screening of *Oppenheimer* in New York City on that day, July 16. But again, they failed to even mention the communities that, at the very same time, were mourning their dead. To highlight this, we organized and held a vigil in New York outside the theater where *Oppenheimer* was being screened, in solidarity with the downwinders. The vigils in New York and New Mexico were covered in the Associated Press, whose story was picked up by over 300 news outlets.

JULY 2023, CONTINUED: MOMENTUM IN THE SENATE

We had a surprise shake-up when US Senator Josh Hawley (R-MO) suddenly dove into RECA, submitting an amendment to the National Defense Authorization Act to significantly strengthen the program. As all of us in the working group watched the vote on the Senate floor, nerves turned to disbelief and elation when the amendment passed 61–37.

Paul Pino, a downwinder whose family was devastated by cancer and other illnesses that they believe are linked to the Trinity Test, was among those hoping it would pass. "I'm stunned. I'm shocked in the most wonderful way," he said in a news interview. "The world is bright and beautiful and full of hope. It renews my faith in the leaders of this country. Republicans and Democrats working together, I can't believe that."

SEPTEMBER 2023: LOBBY DAYS

The coalition supported a dozen frontline community members who traveled to Washington, DC, for three lobby days on Capitol Hill, organizing nearly 30 advocacy meetings with key members of Congress, and working with congressional champions to hold a powerful and widely covered press conference.

We also bought each frontline community member bright yellow T-shirts to wear at the press conference and around the Hill, printed with the words "We are the unknowing, unwilling, uncompensated victims of the Cold War—Support RECA."

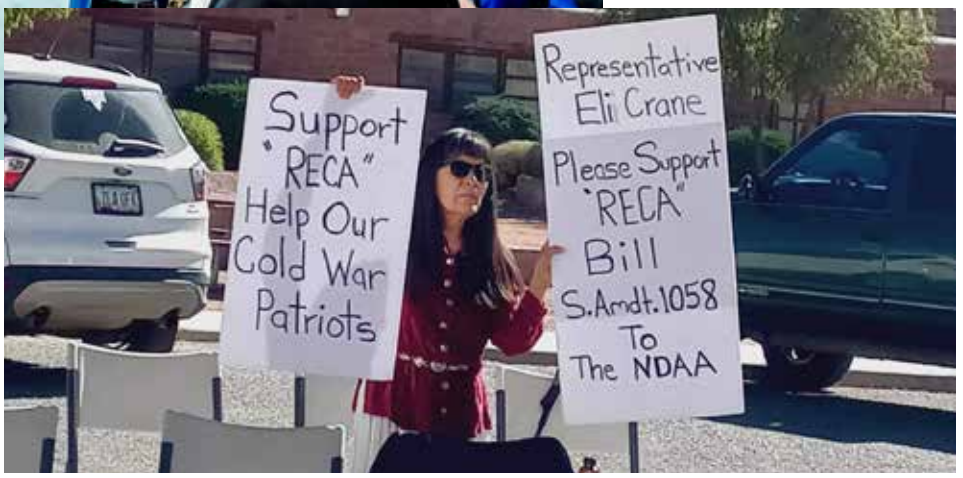
When we work with impacted community members on the Hill, UCS staff members join groups of three to five people in each of their meetings. We help them navigate the confusing House and Senate buildings, take notes at the meetings, and generally try to help the community members make the most of their time. It's very rewarding to see these people who live far away from one another and from DC come together and share their stories directly with elected officials and their staffs, especially because they so often feel overlooked by our government.

FEBRUARY 2024: CHECKING IN WITH MAGGIE BILLIMAN

I've spoken with Maggie nearly every week since the summer of 2023. She was born and raised in the Sawmill Chapter of the Navajo Nation, in northeast Arizona, right in the path of fallout from the Nevada Test Site. On our calls, we chat about her latest medical appointments and any upcoming meetings.

Maggie contacted me after her doctor discovered thyroid nodules and was worried that they could be cancerous. We talked about how she might be able to apply for RECA support, and about her family's experience with radiation. Her family grew up close to the land, drinking milk from their goats—one of the most direct ways to be exposed to radioactive iodine-131.

Photos: Stephen Young/UCS (press conference), Jennifer Knox/UCS (group photo)



Downwinder Maggie Billiman has tirelessly advocated for RECA in her home state of Arizona; on Capitol Hill earlier this year, my colleague Kevin Davis (top, center) spoke to RECA advocates and congressional staff about the bill in advance of the Senate vote.

Her father passed away years ago from stomach cancer, diagnosed when it was too late to treat. He never had the chance to apply for RECA compensation. Since then, she's seen so many other members of her family get cancer: her uncle recently passed away from kidney cancer; her sister is undergoing bladder cancer treatment; her nephew was diagnosed over the holidays.

Understandably, Maggie feels an urgent need to share more about RECA with her community in the Sawmill Chapter, and to work with them to help improve RECA, not only for themselves, but for others around the country.

Even as she has struggled with worsening health issues, Maggie has created a group called the Sawmill Diné Warriors, organized meetings, shared information, and collected over 200 petitions in person, since many don't have internet access. She has spoken with local and national reporters and met with her member of Congress, who has since become an ardent RECA champion.

A lot of my work involves talking and listening to people like Maggie, hearing their stories, trying to understand their pain, and working together on their goals and needs. It is one of the hardest but most fulfilling parts of my job.

FEBRUARY-MARCH 2024: PRESSING FOR RECA LEGISLATION

After passing the Senate late last year as part of a budget bill, the amendment to expand RECA was stripped from the final bill at the last minute. After getting so close, this was a devastating blow, and many in our coalition took the holidays to grieve, process, and recuperate.

But we were determined not to give up. We hit the ground running in the new year, and in late February, our Senate champions struck a deal with leadership to allow a vote on stand-alone legislation.

It was a bittersweet moment: we got the chance to keep RECA legislation alive and moving. But the scale of the bill was slashed by more than $100 billion, mostly by taking out new medical benefits, reducing the amount of compensation, and reducing the extension to six years.

While hard to accept, our group decided that this compromise version would still be a very significant win for communities, many of whom would be able to apply for compensation and get access to life-saving cancer screenings for the first time.

Once again, we organized for a group of 15 impacted community members to travel to DC, where they attended the vote on the Senate floor, watching from the gallery. Tissues were passed around the group as we saw a growing number of Senators vote "yes," not only hitting the needed 60 votes, but ultimately getting a vote of 69-30—an overwhelming bipartisan majority, with eight more Republican supporters than in the previous vote. UCS also worked with our congressional champions to invite six of the advocates as their guests to the State of the Union address that took place the same night as the vote, further highlighting the urgency of the issue.

Our fight isn't over: this legislation still needs to pass in the House. But the growing support and awareness of this issue is extremely encouraging, and we're determined to do everything we can to see these improvements to RECA passed into law. {C}

***Lilly Adams** is a senior outreach coordinator in the UCS Global Security Program. Read more from Lilly on our blog,* The Equation*, at https://blog.ucsusa.org.*

Photos: Maggie Billiman (protest), Christen Commuso (Kevin Davis), Todd Strickland (Christine Strickland), Muhamad Rizal Firmansyah/Unsplash (ad)

Supporting UCS Is a Family Value

Christine Strickland, land and water conservation director at the Mountain Area Land Trust, lives by values she's held since childhood. "When I was a kid, I wanted to save the animals," she says. "Over time, I learned that saving animals requires saving the land—for example, protecting habitats for endangered species, and mitigating sprawl into wildlife areas." Today, she helps the Colorado-based nonprofit organization preserve land in the state from extensive local development. "The work of conserving hundreds of acres at a time is tangible and gratifying. It's my happy place," she says.

And as a longtime donor to the Union of Concerned Scientists who has also designated the organization as a beneficiary in her estate plans, Christine says she's honoring values passed down by her parents, which she's now teaching her own children. "My parents were lifelong philanthropists. It's part of our family culture and heritage, going back multiple generations. My siblings and I were raised from a young age to give back and to be a part of meaningful change," she says. Her parents were especially passionate about environmental protection and education, which drew her to UCS more than 25 years ago.

"UCS educates the public and policymakers using facts and data. And I've long been impressed by the focus on climate, energy, and nuclear weapons reduction. It's difficult to address food security, fossil fuel reduction, or greening our transportation sector as an individual. Being a UCS member allows me to be part of something bigger, to be part of a smart, science-based, collective impact." UCS work in states—for example, on setting emissions standards and boosting the potential for renewable energy—is particularly important to her, as she sees opportunities to make meaningful change at that level.

Christine also sees her support for UCS as an investment in hope, especially as a parent trying to instill her family's values in a new generation. Her legacy gift is a way to ensure that she can help sustain these values, she says. "It can be challenging to maintain hope given the condition of our climate, ongoing attacks on science, and the urgent need for sustainable agriculture. But UCS truly gives me hope for our climate, our food system, justice for overly affected communities—and our future." {C}

EVs Are at a Turning Point—and It May Not Be What You Think

By Don Anair

I've never been more optimistic about the market for electric vehicles (EVs) in the United States, and the nation's ability to zero out tailpipe emissions by driving them. Yes, I've read the same news stories as you that conclude early adopters have already made the switch, and mainstream buyers aren't ready. But while there are some near-term headwinds, the US numbers show strong interest in—and sales of—EVs. Here's what's actually happening:

PROGRESS ISN'T LINEAR

The past year marked a milestone for electric car sales in the United States. For the first time ever, annual sales surpassed 1 million battery-electric and plug-in hybrid vehicles—surpassing more than 9 percent of new vehicles sold. In December 2023 alone, sales hit a new monthly high, approaching 12 percent nationally (see graph).

It's true that some manufacturers have had to readjust their overly confident EV sales targets. But it's not surprising that the transition to EVs isn't a straight line trending endlessly upward. In California, where we have the highest rates of EV ownership, sales have dropped and risen over the past 10 years, picking up as new, better-priced models became available and charging infrastructure was built out.

SUPER-CHARGING EV INFRASTRUCTURE

Access to charging has always been near or at the top of the list of potential EV buyers' concerns. When you buy a car, you want the security of being able to refuel wherever you go. That's why recent developments in charging are such exciting news for EV adoption.

Until now, if you wanted a reliable, extensive, and easy-to-use network of fast chargers, Tesla offered the best choice—but to use it, you had to buy a Tesla. Today, the United States has adopted Tesla's charging technology as a universal charging standard: the North American Charging Standard. This is a game changer with benefits that will play out over the next few years as manufacturers make their cars compatible with the standard, and the Tesla network of chargers opens up to other manufacturers' vehicles. Additionally, massive public and private investments are now being made to build out a more reliable and extensive public charging network—the results of which we're starting to see already.

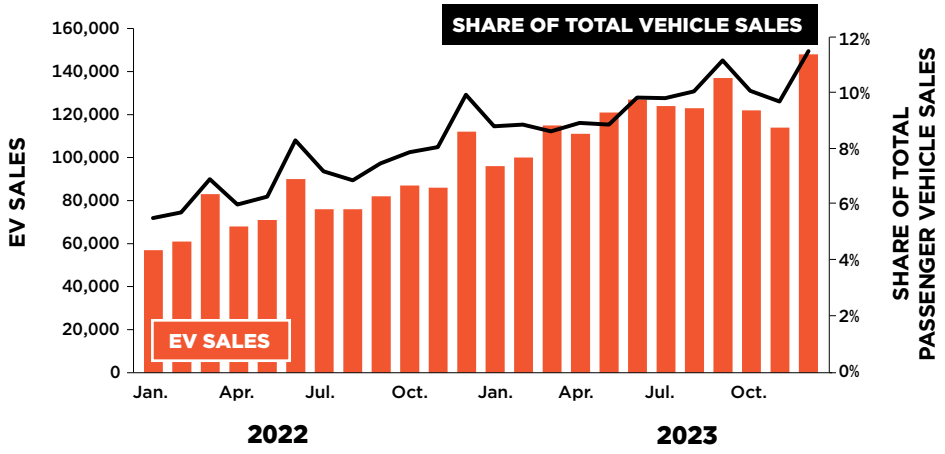
LOOKING AHEAD

The Environmental Protection Agency (EPA) issued its latest, final round of vehicle standards earlier this spring, building on decades of federal and state vehicle performance standards that have eliminated billions of tons of pollution from the air we breathe, saved consumers trillions at the gas pump, and helped to keep climate-changing emissions in check. The new standards—the strongest ever finalized—mandate automakers to produce lower-emissions vehicles and will encourage the production of more models of zero-tailpipe-emissions EVs for drivers to choose from, boosting sales while lowering transportation emissions.

And of course, I'm not content to simply predict a bright future for EVs. The Union of Concerned Scientists will continue to press for smart public policies that will make them more affordable, accessible, and usable for all—and for investments in a cleaner, safer, more accessible transportation system overall. {C}

***Don Anair** is deputy director and research director of the UCS Clean Transportation Program. Read more from Don on our blog,* The Equation, *at https://blog.ucsusa.org.*

EV MARKET SHARE CONTINUES TO CLIMB



EV sales have had some highs and lows over the years, but they are steadily gaining vehicle market share overall, hitting an all-time high this past year. This trend is expected to continue as charging infrastructure, battery capacity, and vehicle emissions standards keep improving.

Photos: Tara Rice (Don Anair), liderina/Adobe Stock (ad); Graph: Heather Tuttle/UCS

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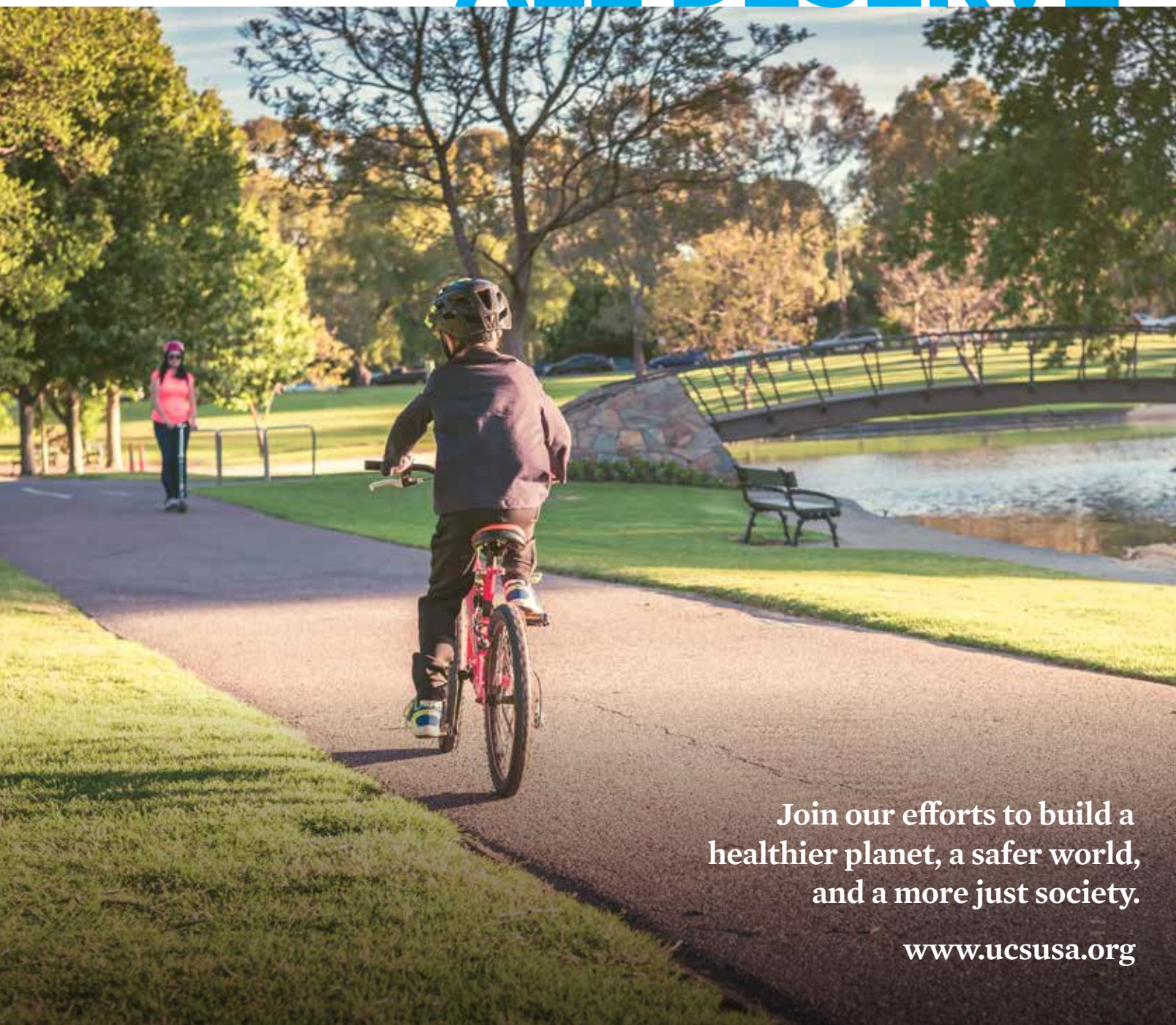

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