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Wave of violence a grim reminder

Illinois and Chicago routinely rank among nation's worst for mass shootings

By Claire Malon and Sam Charles Chicago Tribune

A rash of deadly violence across the southwest suburbs last week was the latest iteration, leaving 11 people shot to death in a matter of hours. Four women — a mother and three daughters — were killed in their Tinley Park home Jan. 21 in "an act of senseless domestic violence," law enforcement officials said. Prosecutors have since charged Maher Kassem, the husband and father of the victims, with four counts of murder. Twenty miles west, in Joliet, seven people were killed in two shootings on the same block. The suspect — Romeo Nance, the son, brother and nephew of the seven killed — later took his own life in Texas while being pursued by U.S. Marshals. Nance shot two other men in Will County, killing one, after he killed his relatives, according to police.

Each violent act is of course unique, but they point to a stark reality: Illinois and Chicago saw more mass shootings than any other state and city in the country over the last decade, according to Tribune analysis of data from the Gun Violence Archive, a nonprofit and research group that tracks gun crime from over 7,500 law enforcement, media, government and commercial sources.

It's an unwanted distinction, driven mostly by Chicago's entrenched gun violence, figures

Turn to Shootings, Page 4



A bullet hole is visible in a window after a shooting wounded 15 people during an event in North Lawndale in October. **BRIAN CASSELLA/ CHICAGO TRIBUNE**

Aid for city is unlikely as migrant crisis swells

Fed deal not a cure-all — and it's doubtful to pass through Congress

By Nell Salzman Chicago Tribune

Thousands of newly arrived migrants have stepped off buses into freezing Chicago tempera-



tures over the past few weeks, and most city-run shelters are at capacity. But any chances of help from Congress look slim.

In negotiations that have lasted weeks, congressional Republicans have refused to approve any further aid for Ukraine without major U.S. border policy changes, which congressional leaders cannot agree on.

Experts observing the issue closely say that even if legislation passes, it will not improve Chicago's situation much, if at all.

While details of the bipartisan bill have not been made public, proposals from Republican senators center around raising the bar for migrants to claim asylum and curbing the president's ability to grant parole — or permission to enter the United States on a temporary basis while asylum claims are reviewed by the courts. These efforts may deter the flow of migrants across borders, but there are larger factors that could keep driving immigrants to Chicago.

The national policy deal holds even more consequence ahead of a 2024 presidential election cycle where immigration will likely be a central and contentious issue. President Joe Biden has been heavily criticized by Republicans who say his liberal policies have encouraged record movement of migrants across the southern border.

This is partially what led Texas Republican Gov. Greg Abbott to begin sending migrants on buses to Chicago nearly 17 months ago — to make a statement about promises by liberal cities and states to welcome asylum-seekers. Migrants, mostly from Venezuela, are now reliant on shelters or camping out on the streets of a sanctuary city that said it would provide shelter and resources.

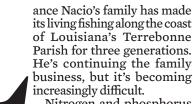
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Illinois farmers struggle with agricultural runoff

Downstream nutrient pollution a major contributor to Gulf dead zone

Above: Lance

By Karina Atkins | Chicago Tribune



Nitrogen and phosphorus are flowing from the Mississippi River Basin into the Gulf of Mexico, creating an oxygen-void area along southern Louisiana and eastern Texas over 18 times larger than Chicago.

Fish, shrimp and other commercial species swim farther from the coast to escape, and those that can't move fast enough die. Fishermen must follow, spending more time and money to sail away from this "dead zone" with dicier odds of a good catch.

"It's costly for fishermen because we struggle to catch fish, and we have to go deeper into the Gulf to get out of the dead zone," said Nacio.

This virtually lifeless expanse, which was first

Nacio, of Anne Marie Shrimp in Montegut, Louisiana, top, and deckhand Jorge Portillo travel past a dock and fishing camp damaged by Hurricane Ida as they harvest traps for blue crab in the Barataria Basin between the Mississippi and Atchafalaya rivers on Tuesday. The area is affected by runoff from the Mississippi watershed, including Midwest states like Illinois.

MATTHEW HINTON/ FOR THE CHICAGO TRIBUNE discovered in the 1970s, has caused up to \$2.4 billion in damages to Gulf fisheries and marine habitats every year from 1980 to 2017, according to a 2020 study.

Illinois has been one of the top contributors to the problem. All the state's waterways feed into the Mississippi River, so millions of pounds of nitrogen and phosphorus-rich discharge from wastewater treatment plants, urban stormwater drainage and agricultural runoff eventually make their way to the Gulf. Increased precipitation associated with climate change is accelerating the flow of these pollutants.

The state's latest biennial report on this nutrient pollution, released in December, shows a 5% increase in nitrogen levels and a 35% increase in phosphorus levels originating from Illinois compared with a base line period from 1980 to 1996. This is a far cry from Illinois' goal of achieving a 15% decrease in nitrogen and 25% decrease in phosphorus by 2025, with sights set on reducing both 45% by 2035.

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Hostage deal may be close

Negotiators are edging closer to a deal in which Israel would suspend its war in Gaza for about two months in exchange for the release of hostages. **Nation & World**



AMIR LEVY/GETTY



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Names to know for the Bears in this week's Senior Bowl, including a top edge rusher and a bevy of centers and wide receivers. **Brad Biggs in Chicago Sports**



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Complete Chicagoland forecast on Page 24

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Pollution

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For many, it feels like Groundhog Day. The 2019 and 2021 reports also showed an increase in nitrogen and phosphorus levels compared with the base line.

"We are having the same conversation we had two years ago," said Eliot Clay, director of land use programs at the Illinois Environmental Council.

Pollution from wastewater treatment plants and other easily identifiable, confined facilities — called point sources — has actually decreased year-overyear since being regulated by the Clean Water Act, so conservationists are turning their attention to nonpoint sources, particularly farms.

Farms make up threefourths of Illinois' land area, and excess fertilizer application and loose soil are significant contributors to nutrient pollution. Farmers have been encouraged to adopt voluntary practices in their fields to mitigate soil erosion and runoff but, with nitrogen and phosphorus levels continuing to rise, some are calling on the state to regulate pollution from agriculture.

"If the state cares about water quality, it needs to put some actual teeth in this strategy. It's not enough to just ask, 'Please don't pollute for another decade,' " said Robert Hirschfeld, director of water policy at the Prairie Rivers Network.

Farmers and agricultural interest groups say it isn't that simple. They want to mitigate nutrient pollution but conservation practices are costly, resources to help farmers make the transition are lacking and climate change is working against them.

"If all you had to say was 'build soil health with these practices,' and all our environmental issues would be solved, we wouldn't be talking about this," said Abigail Peterson, director of agronomy at the Illinois Soybean Association. "This is hard. There are obstacles, especially when you're running a business and you're relying on that money



Lance Nacio, right, and deckhand Jorge Portillo harvest traps for blue crab in the Barataria Basin between the Mississippi and Atchafalaya rivers in Louisiana's Terrebonne Parish on Tuesday. **MATTHEW HINTON/PHOTOS FOR THE CHICAGO TRIBUNE**



The last for the last

Blue crabs are tossed into a container as Lance Nacio harvests traps on Tuesday.

for your family."

Soil conservation methods

Richard Lyons, a fourth-generation corn and soybean farmer in Montgomery County, has been incorporating conservation practices into his farming since the mid-1970s, when the dead zone was first being studied.

The practices simultaneously improved soil fertility and mitigated excess nutrients: a seeming win-win. Now, he has some of the highest crop yields in the county. But Lyons' success took time, financial risk and a willingness to experiment.

What let him to take the leap of faith? "I didn't have a father or a

grandfather telling me how to do it," he said.

After spending some time in northeastern Illinois as a high school teacher, Lyons returned south to take over his family farm following his father's unexpected death.

While his father always took the recommendations of the local fertilizer retailer who had an incentive to sell more product, Lyons decided to create his own nutrient management plan. On the advice of a district official with the state's conservation office, he stopped tilling his soil between harvests. This minimizes loose soil and increases the amount of organic matter in the soil over time.

In a business where neat rows have historically been a source of pride, his neighbors scoffed at his fields that were riddled with remnants of previous harvests. Nevertheless, he persisted, transitioning his whole farm to no-till by the late 1980s.

Then, in 2012, he started planting "cover crops" to keep the ground healthy between harvests. Cover crops like oats, radishes and buckwheat retain water and capture excess nutrients, which prevents runoff and increase soil fertility over time. However, he didn't begin seeing improvements in his cash crop yield until 2018, when it jumped significantly and has steadily increased since.

He had the highest corn and fourth-highest soybean yields per acre in the county, according to the local farm service agency's last audit in 2019.

"It takes a while and you gotta have faith in what you're doing. There's so much research out there that says (conservation practices) work," said Lyons, who credits his exceptional harvests to his cover crops.

"When you don't do it, it's because you can't change away from what grandfather did," he continued, noting that his neighbors still get advice from their fertilizer retailers.

Lack of subsidies for cover crops

Lag time between implementation and results is common. Farmers should expect to wait at least five years before seeing improvements in soil fertility from cover crops, according to Peterson, the Illinois Soybean Association agronomist. In the interim, they must endure the cost of seeds, labor to tend to the cover crops and unexpected interactions between these new crops and cash crops.

"You have to understand that farming is a business, and it's a narrow-margins business a lot of the time," Peterson said.

The average cost of planting cover crops was \$37 per acre in 2021, according to a study published by the University of Illinois. That's \$42 per acre today, when adjusted for inflation. Farmers may also lose profits since cash crop growth can suffer when cover crops are first introduced.

Lyons used a government crop insurance program to hedge his losses during the six years it took to reap the benefits of his cover crops. This support, however, is hard to come by.

Funds for the Illinois Department of Agriculture's cover crop subsidy program, which are distributed on a first-come, firstserved basis, were drained in 10 hours in 2021, leaving 72,652 acres of cover crop applications unfunded. The program budget was increased in 2022, but demand still exceeded available resources. Available funds were depleted in five hours and 22.700 acres of cover crop applications were left unfunded.

Meanwhile, cover crop implementation is at about 6% of what is needed to meet the 45% nutrient reduction goal, according to the state's latest nutrient loss report.

"There needs to be a better coordinated effort from the state to get conservation practices on as many acres as possible, period," said Clay, the Illinois Environmental Council land use director.

A bill enacted in August to increase state support for agricultural soil health programs is a promising start, he said.

Federal funding for conservation programs in Illinois is also lagging, with over \$60 million in unfunded applications, noted the report.

Amelia Cheek, associate director of environmental policy at the Illinois Farm Bureau, is calling on state politicians to more proactively advocate for federal funding to support conservation farming.

"It comes down to educat-

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A two-stage ditch runs through land farmed by Richard Lyons in Montgomery County, Illinois, on Wednesday. The green area is cereal rye planted no-till into cornstalks on Lyons' farm. Cereal rye is the most common cover crop planted prior to soybeans. **E. JASON WAMBSGANS/CHICAGO TRIBUNE**

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ing our elected officials on the needs of rural Illinois," she said.

And there is money to be had. Under the Inflation Reduction Act, \$19.5 billion is being doled out for climate-smart agriculture programs over the next five years. The 2024 Farm Bill will also likely include support for conservation farming.

However, funding programs is only one part of the puzzle. On-the-ground support and education are equally critical, according to agricultural interest groups.

"My fear is that we're going to have all these federal dollars coming from Congress, and we don't have the personnel on the ground to help farmers execute what they want to do," said



much they were going to cost. I feel like it's off now."

Heavier and more frequent rainfall in recent years has increased runoff and, with it, the flow of nitrogen and phosphorus into the Mississippi River Basin. The increase in nitrogen and phosphorus levels in the state's latest report were mostly driven by a 23% increase in river flows, said an Illinois EPA spokesperson. Climate change projections indicate even more frequent and severe rain in the coming years.

Other contributors like streambank erosion and legacy nutrients deposited into streambeds decades ago may also be playing a larger role in current nutrient pollution than previously expected. The Illinois EPA is working with researchers to quantify these sources and determine their contribution to increased nutrient

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Courtney Briggs, senior director of Government Affairs at the American Farm Bureau Federation.

The state-funded offices meant to help farmers figure out how to best apply conservation practices on their fields are chronically understaffed, Cheek said.

The Illinois Department of Agriculture is aware of capacity challenges and secured a multimillion-dollar federal grant to increase conservation staffing, said a department spokesperson. Just over a year into the grant, over 40 conservation planners have been hired across the state.

In Illinois, there is an added challenge of educating absentee landowners who often live in cities hundreds of miles away or may even be corporations. About 77% of farmland is leased through crop share or cash rent agreements between farmers and absentee landowners, according to 2021 Illinois Farm Business Farm Management Association data. This is one of the highest rates in the country.

Andrea Hazzard, a grain farmer in Winnebago County who leases her land, is committed to practicing sustainable agriculture and has used her own resources to plant cover crops.

"I would like to adopt a lot more practices, but I don't own any land and I can't just go to a conservation office and say: 'Hey, I want to put in a prairie strip.' I have to go through the landowner," Hazzard said.

It's often difficult for farmers like Hazzard to justify short-term losses for long-term soil health to landowners whose primary interest is the yearly bottom line.

"(Farmers) are more willing to make those sacrifices and those risks on a piece of land that they own. It's harder to do that on a piece of land that they're renting and have to be able to justify that return on investment," said Megan Dwyer, the director of conservation and nutrient stewardship at Lyons points out an earthworm hole in the soil of his farm field on May 10. EILEEN T. MESLAR/CHICAGO TRIBUNE



Anhydrous ammonia is tilled into a cover crop of barley, wheat, radish, rape and Austrian winter pea. Corn will be planted into the strip in spring on land farmed by Lyons in Montgomery County. **E. JASON WAMBSGANS/CHICAGO TRIBUNE**

the Illinois Corn Growers Association.

Farming pollution's ripple effects

As it struggles to improve funding and education, Illinois must remain vigilant against potential legal action, said Clay, with the Illinois Environmental Council.

The five-year average size of the dead zone is over two times larger than management targets and Gulf state economies already intimately feel the ramifications. Economic impact data from 2006 to 2016 shows their coastal commercial and recreational fishing industries have experienced little growth over the past decade, which has ripple effects throughout local economies.

"I can see there being a scenario where there are lawsuits from (Gulf) states down south against other states," he warned. "And Illinois — being a leading contributor of nitrogen and phosphorus — we're gonna be a target. We need to start taking that seriously because if we don't, we're gonna be in a real pickle."

The effects of nutrient pollution are also being felt closer to home.

Illinois EPA's latest water quality report revealed 61.6% of streams are too polluted to support indigenous aquatic life and 85.3% are too polluted to support direct human contact.

"We have a nutrient problem, but we also have a climate resilience problem. Everything we do for nutrient reduction would also make us more climate resilient," said Liz Stelk, the executive director of the Illinois Stewardship Alliance, which advocates for local food systems and sustainable farm practices.

May's fatal pile-up crash on I-55 might have been prevented if nearby farms stopped tilling their land, according to Stelk and other conservation farming activists. The dust storm was likely caused by unusually high winds blowing loose soil from nearby fields.

In light of the rising stakes, some environmental groups are calling for the state to mandate conservation practices on farms rather than invest in more voluntary incentive-based programs.

Hirschfield, with the Prairie Rivers Network, points to the strides that have been made by wastewater treatment facilities. They have already exceeded the phosphorus reduction goal for 2025.

"It is time for agriculture to actually be accountable for its pollution," Hirschfield said.

But agriculture interest groups say farms are fundamentally different from point sources. Any one-sizefits-all approach would be counterproductive, said Dwyer, especially in Illinois where the state's north-tosouth orientation means the climate varies significantly across the state.

"Regulations would pigeonhole farmers and make them have to adapt to something that does not make sense," Peterson added. "It would drive me, as an agronomist, insane because there are years — if we have a late harvest, for example — when it doesn't make any educational sense to put in a cover crop."

Michael Ganschow, a

sixth-generation corn and soybean farmer in Bureau County, has appreciated the ability to experiment and to find the system that works best on each of his fields.

"There is a lot of risk when you have these kinds of practices in your operation. On the other side of it, if you're able to play around with (the practices) on a small scale to see how you can get them to work on your operation and then expand, there are tremendous benefits that can come out as far as soil health and nutrient loss," he said.

Besides, it would be "nearly impossible" to impose a regulatory structure on an industry that covers nearly 75% of the state, said Clay.

Instead, the state should focus on deploying educational resources to rural countryside farms and increase funding for nutrient management projects deployed and managed at the watershed level, suggested Lauren Lurkins, the former director of environmental policy for the Illinois Farm Bureau and founder of the environmental consulting firm Lurkins Strategies.

Climate change's role

As some farmers wait to reap the benefits of conservation practices and others try to overcome the economic and social barriers to adopting them, climate change is intensifying and making nutrient reduction goals harder to achieve.

"When are we going to really think about our goal as a state in light of this changing world? Is it going to be more expensive or complicated?" asked Lurkins, who was part of the policy team that crafted the state's first nutrient loss reduction strategy in 2015. "From the very beginning, we looked at how effective (the conservation practices) are and how levels.

Meanwhile, many farmers are looking to potential technological innovations to help them reduce nutrient pollution.

Ganschow is particularly excited about the prospect of new precision sensors that could allow him to be more time and location specific when applying fertilizers. This will be especially helpful as weather patterns become increasingly unpredictable. By only using fertilizer when and where necessary, he can reduce his costs and the amount of excess nutrients on his fields.

"It's kind of a two-sided coin here. It's not only environmentally friendly, but it becomes an economical thing," said Ganschow, thinking back to how his grandfather's early adoption of conservation practices made their land productive so he and his father can continue to live off it today.

"A farmer puts their retirement in the land. It's a multigenerational business. I'm not just looking at how I can get the most out of this one piece right now. This has to be my lifeline when I retire. I want it to be there for the next generation," said Dwyer, who is also a fourth-generation corn and soybean farmer in northwestern Illinois.

To stay afloat and have something to give their children, farmers must strike a balance between economic pragmatism and environmental stewardship. Ironically, perhaps the ones who can best sympathize with this challenge are the fishermen downstream whose livelihoods depend on farmers striking the balance.

"Farmers and fishermen have a lot of similarities," said Nacio, the Louisiana fisherman. "We're both dependent on nature, and we appreciate any efforts farmers do to help minimize runoffbecause it's impactful for us also in South Louisiana — the people who rely on the Gulf of Mexico to make a living."