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Fertilized to Death:

Industrial Fertilizer Pollution in Louisiana and the Mississippi River

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Key Findings

- **Louisiana fertilizer production facilities discharge millions of pounds of Dead Zone-causing pollution into the Mississippi River every year.**
- **Proposed Louisiana ammonia facilities could more than double the amount of fertilizer pollution discharged into the Mississippi River.**
- **Water pollution from just four existing Louisiana fertilizer facilities is equal to fertilizer runoff from 134,212 acres of Midwest farmland (approximately the size of Chicago).**
- **There are four proposed fertilizer production facilities along the Mississippi River in Louisiana in communities already overburdened by industrial pollution.**

Photo above: Industrial complex along the Mississippi River in Southeast Louisiana. Credit: Healthy Gulf, flight provided by SouthWings.

Louisiana Fertilizer Facilities Along the Mississippi River

Fertilizer Facilities discharge millions of pounds of fertilizer pollution directly into the Mississippi River per year

Nitrogen and phosphorus pollution, in the form of agricultural runoff, are key drivers of the Dead Zone that forms at the mouth of the Mississippi. The Dead Zone, which has stretched thousands of square miles–even reaching the size of New Jersey, is an area where fertilizer pollution-fueled algae blooms cause the depletion of oxygen. Sea life in the Dead Zone must swim away or suffocate. In addition to environmental concerns, excess nitrogen in the water can significantly impact public health.[1] Nitrates are linked to multiple forms of cancer, blue baby syndrome, and toxic algae outbreaks which can cause rashes, stomach or liver illness, respiratory problems, and neurological effects.

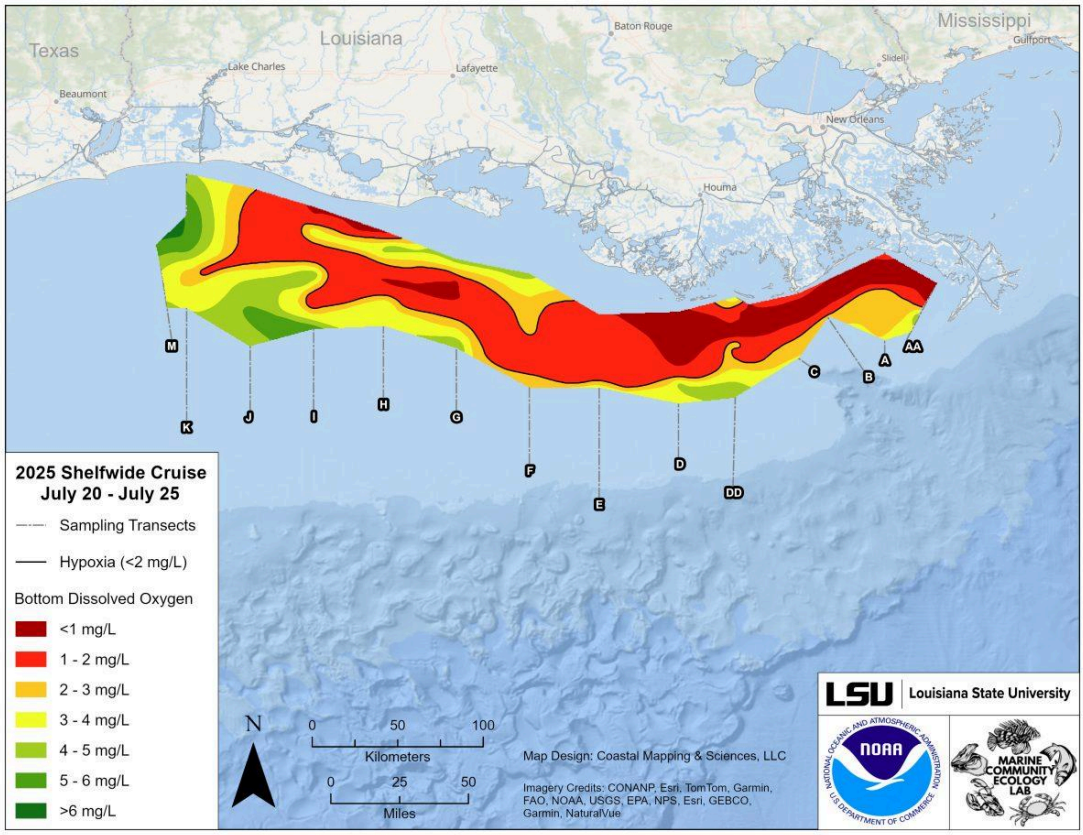

Figure 1: *Extent of the 2025 Gulf Dead Zone off the coast of Louisiana.*
Credit: Louisiana State University, National Oceanic and Atmospheric Administration

[1] "The Effects." *United States Environmental Protection Agency,* 12 Feb. 2026, www.epa.gov/nutrientpollution/effects. Accessed 5 Mar. 2026.

Ammonia is currently produced at 35 plants in 16 states in the US, with 60 percent produced in just four states: Louisiana, Oklahoma, Georgia, and Texas.[2] The section of the Mississippi River in Louisiana stretching from Baton Rouge to New Orleans, known as "Cancer Alley" is home to the production of 25% of the United States' petrochemical products.[3] This includes multiple fertilizer production facilities, including the largest ammonia fertilizer facility in the world: CF Industries Donaldsonville Complex.[4] Not only do these facilities provide fertilizer that ends up flowing off of agricultural fields and polluting waters throughout the country and world, they also directly pollute local waters, especially the Mississippi.

Existing fertilizer plants in this stretch of the Mississippi River, leading down to the Mississippi River Delta, released at least 3,221,085 pounds of fertilizer pollution (nitrogen, ammonia, and phosphorus) directly into the Mississippi River in 2024.[5]

Photo: CF Industries Nitrogen fertilizer production facility located in Southeast Louisiana along the Mississippi River. Credit: Healthy Gulf, flight provided by Southwings

[2]Apodaca, Lori E. "Prepared by Lori E. Apodaca [(703) 648–7724, Lapodaca@usgs.Gov]." Nitrogen (Fixed) - Ammonia, USGS, Jan. 2023, pubs.usgs.gov/periodicals/mcs2023/mcs2023-nitrogen.pdf.

[3] Simonsen, Neal, et al. "Environmental Exposure to Emissions from Petrochemical Sites and Lung Cancer: The Lower Mississippi Interagency Cancer Study." Journal of Environmental and Public Health, vol. 2010, 2010, pp. 1–9, https://doi.org/10.1155/2010/759645.

[4] "Donaldsonville Complex." *CF Industries*, https://www.cfindustries.com/whoweare/locations/donaldsonville Accessed 8 April 2026.

[5] Data for ammonia and nitrogen discharges gathered utilizing EPA's Toxic Release Inventory (TRI) database. https://www.epa.gov/toxics-release-inventory-tri-program. Data for phosphorus discharges calculated using monthly average discharges reported on facility discharge monitoring reports for 2024, accessed through Louisiana Department of Environmental Quality's Electronic Data Management System (EDMS), https://www.deq.louisiana.gov/page/edms.

Proposed Fertilizer Facilities Could Double Fertilizer Production Waste Discharged into the Mississippi River

Despite the disproportionate concentration of existing fertilizer production facilities, multiple new facilities have been proposed. If built, these facilities could be permitted to discharge up to 3,831,630 additional pounds of fertilizer pollution into the River. Combining discharges from existing facilities and the potential permit limits from proposed facilities, a potential of 7 million pounds of fertilizer pollution could be discharged into the Mississippi River from just eight facilities.[6]

If proposed facilities discharged what they would be permitted under New Source EPA limits, pollution discharges from fertilizer facilities could increase to 7,052,715 pounds (accounting for only nitrogen increases), resulting in a 119% increase in fertilizer pollution into the Mississippi River coming directly from fertilizer production facilities.

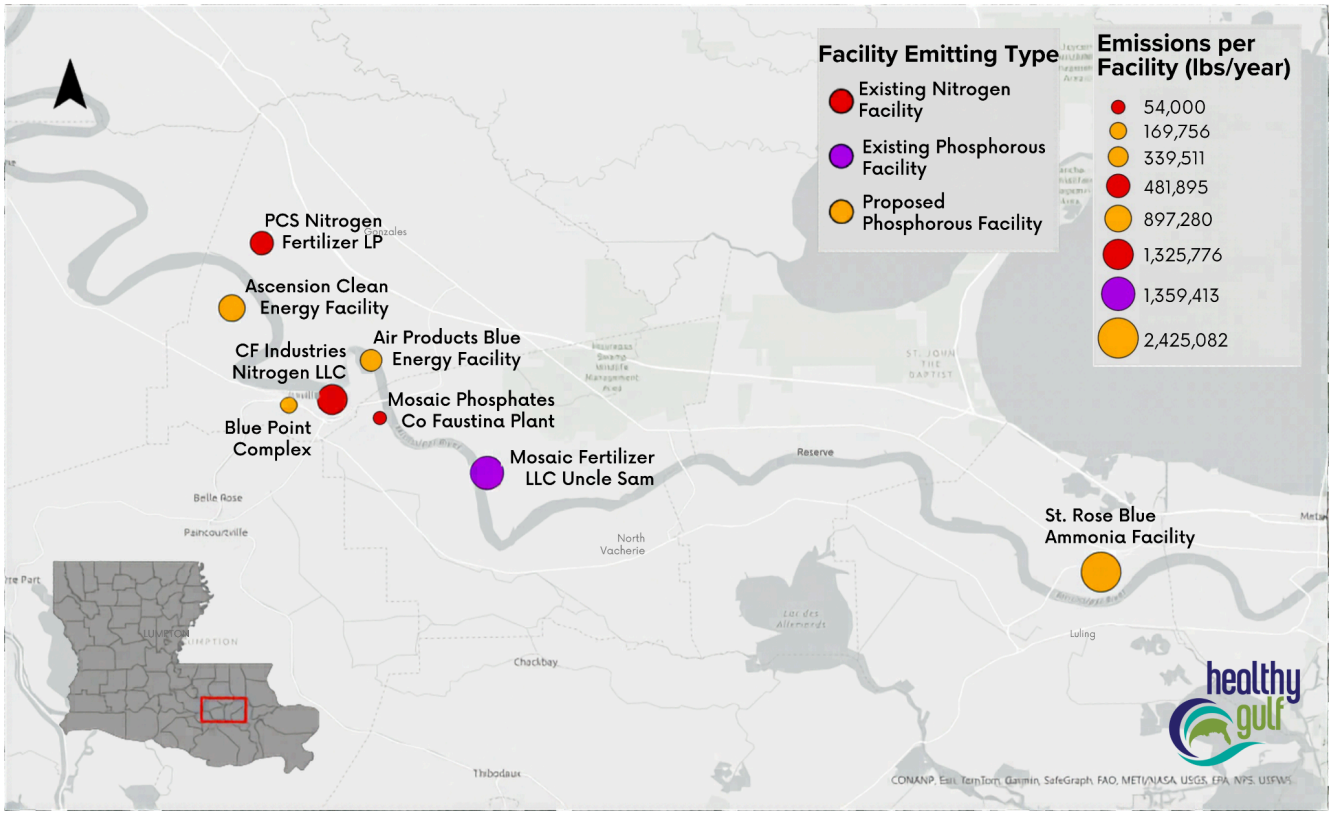

Figure 2. *Map of existing and proposed fertilizer production facilities that discharge production waste into the Mississippi River in Southeastern Louisiana. Discharges from existing ammonia/nitrogen facilities based on EPA Toxic Release Inventory (TRI) 2024 data. Data for phosphorus discharges calculated using monthly average discharges reported on facility discharge monitoring reports for 2024. Data for discharges from proposed facilities were calculated utilizing production capacity announced by the companies and applying EPA "New Source" monthly limits for fertilizer facilities.*

[6] Data for discharges from proposed facilities were calculated utilizing production capacity announced by the companies and applying EPA "New Source" monthly limits for fertilizer facilities.

Facility	Pollution Discharged into the Mississippi River (lbs/yr)	
	Ammonia + Nitrate	Phosphorus
CF Industries Nitrogen LLC	1,325,776	
Mosaic Phosphates Co Faustina Plant	54,000	
PCS Nitrogen Fertilizer LP	481,895	
Mosaic Fertilizer LLC Uncle Sam		1,359,414
Ascension Clean Energy Facility	897,280	
Air Products Blue Energy Facility	339,511	
St. Rose Blue Ammonia Facility	2,425,082	
Blue Point Complex	169,756	

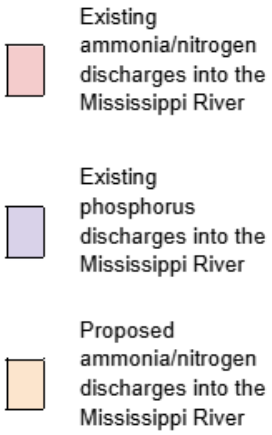

Table 1. *Existing and proposed fertilizer production facilities that discharge production waste into the Mississippi River in Southeastern Louisiana. Discharges from existing ammonia/nitrogen facilities based on EPA Toxic Release Inventory (TRI) 2024 data. Data for phosphorus discharges calculated using monthly average discharges reported on facility discharge monitoring reports for 2024. Data for discharges from proposed facilities were calculated utilizing production capacity announced by the companies and applying EPA "New Source" monthly limits for fertilizer facilities.*

Conclusion

It is not often highlighted that fertilizer production facilities dump millions of pounds of toxic pollution into the Mississippi River every year. Unlike agricultural runoff, individual facilities are directly regulated under the Clean Water Act through limits on how much pollution each facility can discharge. This dumping of fertilizer pollution into the river wastes fertilizer, and contributes to long-standing pollution issues like the Gulf Dead Zone.

The 2024 discharge from Louisiana fertilizer production facilities is equivalent to the fertilizer pollution that runs off of

134,212 acres

of Midwest agricultural land

While we need to continue to promote best management practices and other methods to reduce agricultural runoff, reductions in fertilizer facilities'pollution could be required through state and federal regulatory agencies. The EPA pollution limits for fertilizer production have not been revised since the 1980s.[7]

While agricultural runoff contributes more nitrogen and phosphorus fertilizer pollution to the Mississippi River than fertilizer production facilities,[8] the concentrated discharge from fertilizer

[7] "Fertilizer Manufacturing Effluent Guidelines." *United States Environmental Protection Agency*, 20 May 2025, www.epa.gov/eg/fertilizer-manufacturing-effluent-guidelines. Accessed 8 April 2026.

[8] "Differences in Phosphorus and Nitrogen Delivery to the Gulf of Mexico from the Mississippi River Basin." *USGS NAWQA: Nutrient Delivery to the Gulf of Mexico*, USGS, 4 Mar. 2014, water.usgs.gov/nawqa/sparrow/gulf_findings/primary_sources.html. Accessed 17 Apr. 2026.

production facilities is considerable. The 2024 discharge of fertilizer production waste from the three existing nitrogen/ammonia facilities is equivalent to the fertilizer pollution that flows off 134,212 acres of agricultural land in the midwest (approximately the land mass of Chicago). If the four proposed facilities discharged what they would be permitted for, this increases to the equivalent of the fertilizer runoff from approximately 300,000 acres of midwestern farmland.[9]

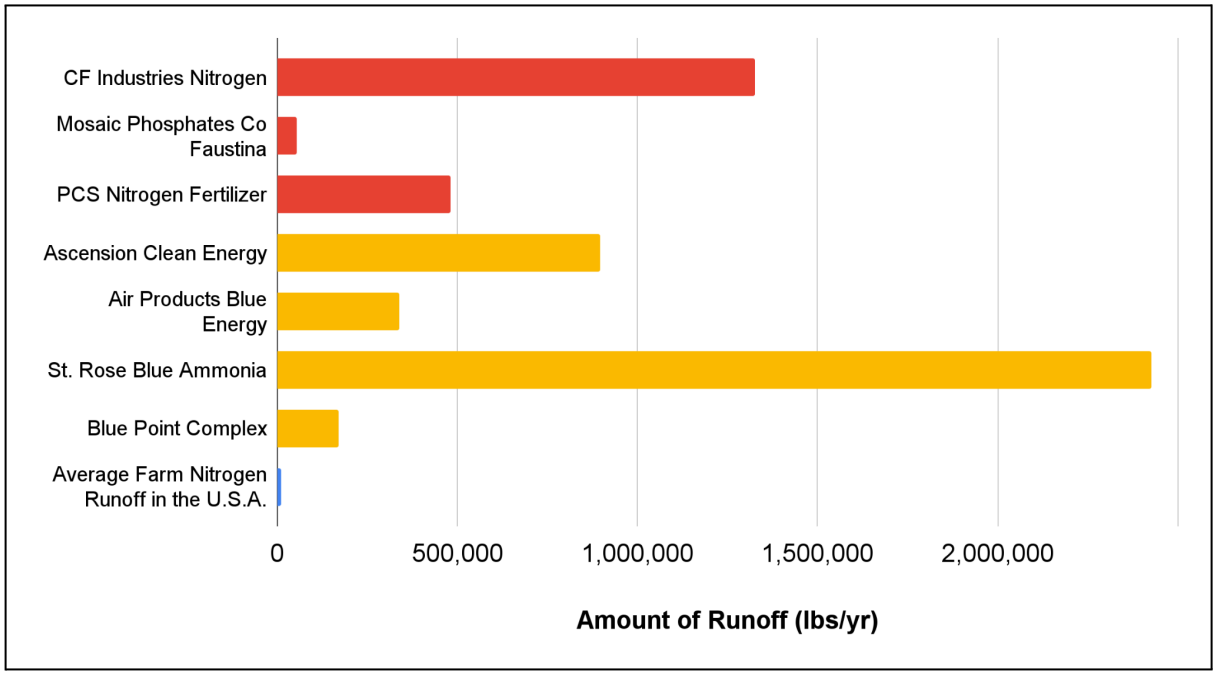

Figure 3. *Annual nitrogen+ammonia discharge from existing facilities (red) and annual permitted discharge from proposed facilities (yellow) compared to the average sized (466 acre) United States farm (blue).[10] Nitrogen runoff calculated using USDA data.[11] Discharges from existing ammonia/nitrogen facilities based on EPA Toxic Release Inventory (TRI) 2024 data. Data for phosphorus discharges calculated using monthly average discharges reported on facility discharge monitoring reports for 2024. Data for discharges from proposed facilities were calculated utilizing production capacity announced by the companies and applying EPA "New Source" monthly limits for fertilizer facilities.*

The expansion of ammonia production in Louisiana would not only exacerbate environmental degradation, as previously discussed, but also intensify the cumulative health burden on communities in "Cancer Alley." Increased ammonia emissions would amplify already elevated exposure levels, further endangering local residents. Many of these communities are predominantly low-income and majority Black, highlighting patterns of unequal environmental exposure that warrant careful consideration.

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[9] Calculations based on the mean nitrogen lost from North and Central Midwest cultivated cropland areas through surface and subsurface pathways.

"Effects of Conservation Practices on Nitrogen Loss from Farm Fields." *Natural Resources Conservation Service,* United States Department of Agriculture, Nov. 2017, www.nrcs.usda.gov/publications/ceap-crop-2017-nitrogen-loss.pdf..

[10] "Farms and Land in Farms 2025 Summary." *Natural Agricultural Statistics Service*, United States Department of Agriculture, Feb. 2026, https://www.nass.usda.gov/Publications/Todays_Reports/reports/fnlo0226.pdf

[11] "Effects of Conservation Practices on Nitrogen Loss from Farm Fields." *Natural Resources Conservation Service,* United States Department of Agriculture, Nov. 2017, www.nrcs.usda.gov/publications/ceap-crop-2017-nitrogen-loss.pdf..

Recommendations

Recommendation
The United States Environmental Protection Agency (EPA) and Louisiana Department of Environmental Quality (LDEQ) must develop more stringent Ammonia criteria, focused not only on toxicity but also impacts to the Gulf Dead Zone.

Recommendation
The United States Environmental Protection Agency (EPA) and Louisiana Department of Environmental Quality must develop nitrogen and phosphorus criteria for the Mississippi River, and hold fertilizer production facilities to those limits.

Recommendation
No additional fertilizer facilities should be permitted in the Louisiana Mississippi River corridor until more stringent limits are placed on the nitrogen, ammonia, and phosphorus discharges from existing and proposed facilities.

Recommendation
Existing fertilizer facilities, including CF Industries, Mosaic, and PCS Nitrogen should submit plans to the United States Environmental Protection Agency (EPA) and Louisiana Department of Environmental Quality (LDEQ), and the public regarding how they will reduce the millions of pounds of fertilizer waste they dump into the Mississippi River.

Healthy Gulf is a 501(c)3 organization who collaborates with and serves communities who love the Gulf of Mexico by providing the research, communications, and coalition-building tools needed to reverse the long pattern of over exploitation of the Gulf's natural resources.

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