



Industrial meat and poultry processing plants dump huge volumes of pollution into America's rivers.



Pollution from slaughterhouses contributes to algal outbreaks.

Slaughterhouses Are Polluting Our Waterways

Updated Rules Are Needed to Protect Our Health and Wildlife

Industrial meat and poultry processing plants dump huge volumes of pollution into America's rivers, threatening our health and harming our environment. The construction of more slaughterhouses adds to this water pollution. Despite Clean Water Act requirements, the EPA has refused to update decades-old pollution standards to protect the public.

Slaughterhouses pollute our rivers

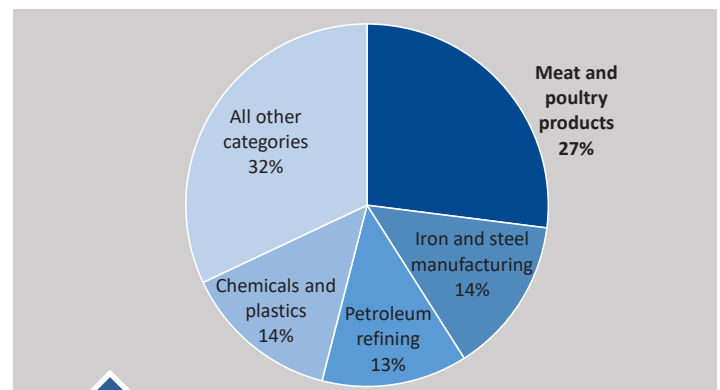
Slaughterhouses—industrial facilities that process and package poultry, beef, pork and other meat—discharge millions of pounds of pollution into America's waterways every year.¹

- Wastewater from slaughterhouses contains nitrogen and phosphorus that contribute to toxic algal outbreaks and dead zones.
- Wastewater also can contain fecal bacteria and pathogens, veterinary drugs, cleaning products and blood.
- According to the Environmental Protection Agency (EPA), as of 2015, 367 slaughterhouses—including many that process thousands of animals a day—dumped wastewater directly into rivers and streams.
- Many other slaughterhouses send waste to public wastewater treatment plants, potentially increasing pollution from those facilities. In addition, in 2002, the EPA counted more than 1,000 facilities that stored waste in on-site lagoons or spread it on land. Heavy rains can cause lagoons to overflow or wash waste off fields where it has been sprayed, polluting nearby waterways.

Slaughterhouses are major water polluters

Meat and poultry processing facilities are a leading source of water pollution.

- In 2018, slaughterhouses released more than 55 million pounds of toxic substances directly into the nation's rivers and streams.
- Meat and poultry processing facilities are the largest industrial point source of nitrogen pollution discharged to waterways, according to 2015 EPA data. (See Figure 1.) They also generate 14 percent of the phosphorus released into waterways from industrial sources.



Slaughterhouses are the leading industrial point source of nitrogen discharged into waterways.

¹ View all sources online at <https://bit.ly/2WVV7wB>

Slaughterhouse pollution can contain dangerous viruses and bacteria

Wastewater from meat and poultry processing facilities contains bacteria, viruses and parasites that can make water unsafe for drinking, recreation or irrigation.

- Pathogens commonly found in slaughterhouse wastewater have been linked to gastrointestinal diseases, bloody diarrhea, liver damage, and in some cases death.
- Slaughterhouse wastewater can contain antibiotic-resistant strains of *E. coli*, fueling the spread of antibiotic-resistant bacteria that cause hard-to-treat infections.
- Municipal drinking water systems downstream from slaughterhouses use disinfectants to kill pathogens, potentially creating unsafe chemical byproducts. For example, JBS Pork discharges its wastewater into the Des Moines River, which is a drinking water source for Ottumwa, Iowa. Ottumwa Water Works has reported levels of drinking water disinfection byproducts that at times exceeded drinking water standards and ranked in the top 10 percent nationally.

Other pollutants in slaughterhouse waste also threaten human health

Nitrates degrade drinking water.

- Nitrates, a form of nitrogen, account for nearly all the pollution reported in slaughterhouse wastewater discharged to rivers.
- In Sussex County, Delaware, field spraying of slaughterhouse wastewater has polluted local drinking water wells with nitrates.
- Nitrates have been linked to “blue baby syndrome” and colorectal and other cancers.

Nitrogen and phosphorus pollution from slaughterhouses threatens human health by contributing to toxic algal outbreaks.

- Toxic algae makes water unsafe to drink. Algal outbreaks can produce high levels of cyanotoxins that water treatment systems may not be able to completely filter out of drinking water.
- Algal outbreaks can also make water unsafe for swimming. In 2019, officials ordered multiple lengthy beach closures in Missis-



Pollution from slaughterhouses can contribute to algal outbreaks.

sippi due to algal outbreaks. They warned beachgoers not to come into contact with the water because the algae could cause nausea and vomiting and harm the liver and nervous system.

Slaughterhouse wastewater harms wildlife and ecosystems

Nitrogen and phosphorus pollution from slaughterhouses contributes to dead zones, harming ecosystems and wildlife.

- Nutrient pollution feeds algal outbreaks. When large numbers of algae die, they remove oxygen from the water and create “dead zones” for fish and other aquatic life.
- Many slaughterhouses discharge into the vast Mississippi River watershed, which flows into the Gulf of Mexico.
- In 2019, the dead zone in the Gulf of Mexico covered 6,592 square miles, forcing fish to either flee or suffocate. Reduced habitat can cause fish populations to decline.

Slaughterhouse wastewater damages wildlife and ecosystems in additional ways.

- Compounds found in slaughterhouse wastewater, such as chromium and chemicals from detergents used in cleaning, have been found to cause changes in aquatic ecosystems that endanger fish and vegetation.
- In 2015, after a wastewater lagoon spilled millions of gallons at a JBS USA slaughterhouse in Beardstown, Illinois, untreated wastewater was pumped into a nearby bay connected to the Illinois River, leading to the death of more than 64,000 fish.

Slaughterhouses increase the pollution threat from CAFOs

New meat and poultry processing facilities create demand for huge volumes of livestock and poultry, and can spur construction of more concentrated animal feeding operations (CAFOs).

- In Humboldt, Tennessee, Tyson Foods is building a new facility to process 1.25 million chickens per week. To supply the plant with chickens, Tyson estimates it will contract with 80 farmers, at least one of whom will build new chicken houses. Most of the chickens will be raised within 35 miles of the plant.
- A new Costco chicken processing facility in Nebraska has resulted in construction of hundreds of new barns at chicken farms. Some farms will raise as many as 750,000 chickens at a time. (See sidebar.)

CAFOs are themselves a major source of water pollution.

- Livestock and poultry operations produce huge amounts of manure. A large feeding operation with 60,000 hogs, for example, can produce nearly 100,000 tons of manure in a year.
- CAFOs often are concentrated in a limited geographic area, and produce more nitrogen and phosphorus than can be absorbed by crops on the surrounding farmland. As a result, nutrient pollution from manure is a major source of pollution in the nation's waterways.
- For example, in North Carolina, immense hog operations generate waste that has polluted the state's rivers and streams. Heavy rain has washed the waste off fields where it has been sprayed. Lagoons also have overflowed during hurricanes, spreading bacteria into water that people come into contact with.

Slaughterhouses present a growing threat to water quality

- The number of slaughterhouses that discharge wastewater directly to streams and rivers increased by more than 25 percent

- from 2004 to 2015, according to the EPA.
- Major new slaughterhouses have been built in recent years or are under construction in Tennessee, Nebraska, Rhode Island and Michigan.
- As existing slaughterhouses increase their production speeds to process more animals, they may also produce more wastewater.



An abundant supply of corn for chicken feed, such as at this existing facility, drew Costco to build a chicken processing facility in Fremont, Nebraska.

Case study: New poultry processing facility will lead to massive amounts of manure

In 2017, Costco began construction on a new chicken processing facility in Fremont, Nebraska, that will process more than 2 million chickens per week. The slaughterhouse is on the Platte River upstream from the drinking water supply for Omaha and Lincoln. In addition, to ensure an adequate supply of chickens for the facility, Lincoln Premium Poultry, the company managing the project, planned to contract with farmers to build 520 new chicken barns. This expanded chicken population will generate large amounts of manure.

Industrial chicken operations contain multiple barns. Some of these facilities will hold up to 750,000 birds.

Once all the chicken houses are operating, they could produce a total of 3.9 million pounds of manure and waste each day, more than twice as much as is generated by residents of the city of Omaha. This volume of manure presents a major pollution threat to local streams, rivers and groundwater.

Federal slaughterhouse pollution standards are weak and enforcement is lax

The federal Clean Water Act requires the EPA to update industry-wide water pollution standards for slaughterhouses to keep pace with advances in pollution-control technology. But the EPA has failed to carry out this responsibility, putting our water at risk:

- The EPA last updated water pollution standards more than 15 years ago for the largest slaughterhouses.
- An estimated 38 percent of meat and poultry facilities are still allowed to discharge pollution under EPA standards set in 1975.
- The existing standards are weak. For example, slaughterhouses can release wastewater with more than twice the concentration of total nitrogen found in raw household sewage directly into streams and lakes.

An analysis by the Environmental Integrity Project of 98 of the biggest slaughterhouses that discharge directly to waterways found multiple violations of the Clean Water Act.

- Between January 2016 and June 2018, three quarters of the slaughterhouses exceeded at least one of the pollution limits in their federal permits, committing 1,142 violations in total.
- At least 18 of the facilities reviewed were in violation for more than 100 days during that period, and six were in violation of one or more monthly pollution limits at least 50 percent of the time they were in operation.
- Of 98 large slaughterhouses, almost a third released wastewater that violated their Clean Water Act permits for bacteria, including fecal coliforms, E. coli, and enterococcus.



Water pollution standards for the largest slaughterhouses were last updated in 2004.

The nation needs stronger slaughterhouse water pollution standards and tougher enforcement

Slaughterhouses present an urgent and growing threat to water quality. According to the Environmental Integrity Project, more than 60 percent of the waterways receiving discharges from the largest slaughterhouses are already too polluted for fishing, swimming or other designated uses. Clearly, stronger standards are needed to keep our waterways clean. Yet, in 2019 the EPA decided not to update the federal water pollution standards for meat and poultry processing plants, despite Clean Water Act requirements to do so.

The EPA last updated pollution standards for the largest agribusiness facilities in 2004. Technology is available to dramatically reduce pollution: some major slaughterhouses already release wastewater with less than one-third the permitted amount of nitrogen.

And, given extensive pollution exceedances by large slaughterhouses (even under today's weak standards), protecting our waterways will also require much stronger enforcement action.



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www.EnvironmentAmerica.org

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