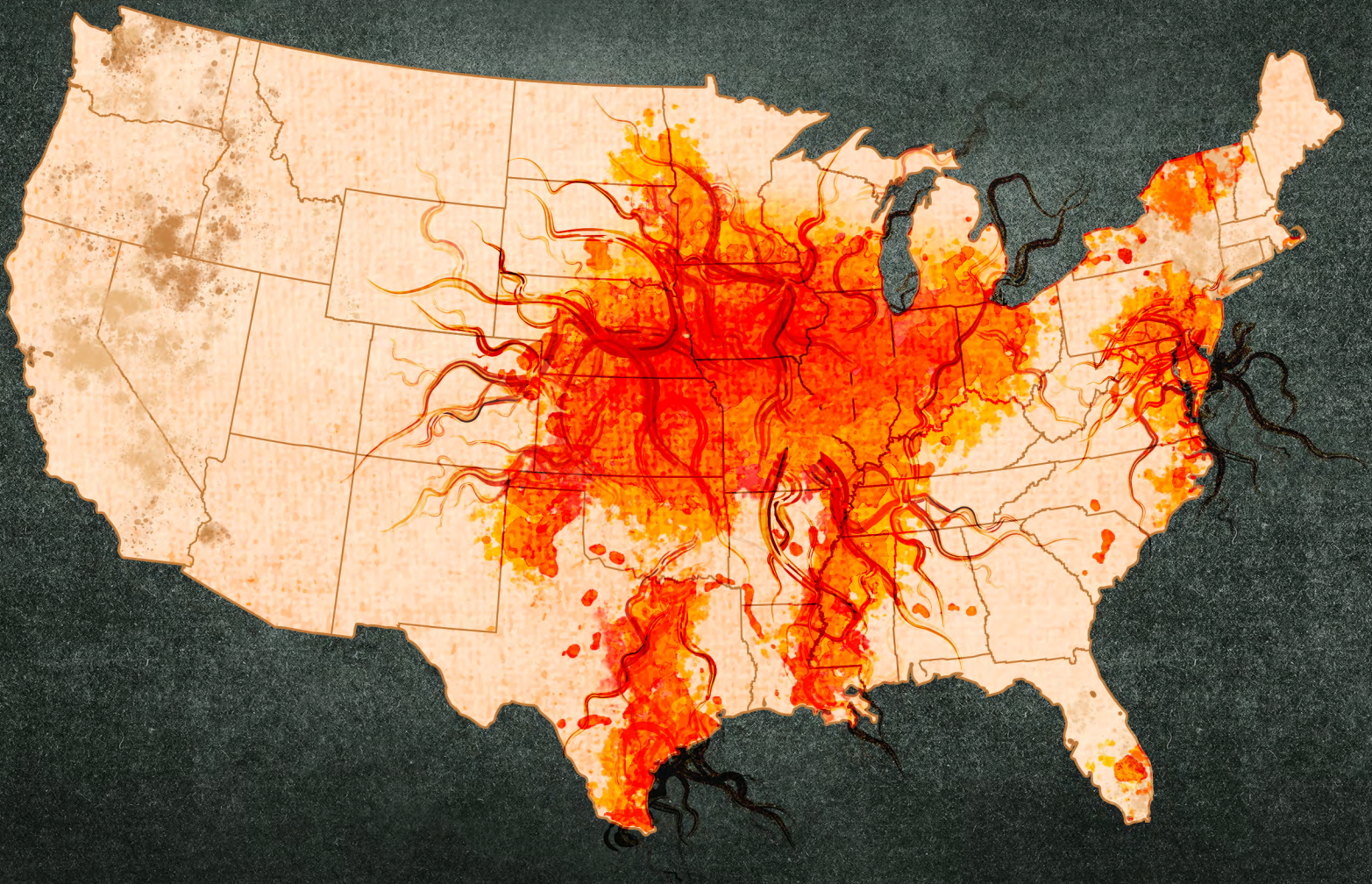


# PERNICIOUS PESTICIDE

---

ATRAZINE'S GROWING THREATS TO DRINKING  
WATER, RIVERS, PEOPLE, AND WILDLIFE





*Photo by Suthisak/Adobe Stock*

## EXECUTIVE SUMMARY

Atrazine is one of the most widely used pesticides in the United States, with about 70 million pounds deployed nationwide each year. It's also the most widespread pesticide contaminant in U.S. water bodies and so dangerous to both people and wildlife that it has been banned in more than 60 countries across the world. Atrazine is primarily used on industrially grown commodity crops like corn, sugarcane, and sorghum.

Numerous studies have provided overwhelming evidence linking it to significant human health concerns, including increased risk of many types of cancers and reproductive problems. It's also linked to declines of amphibians and fish. Exposure at levels as low as 0.1 parts per billion (ppb) has been shown to harm reproductive organ development in frogs, potentially leading to population-level impacts. The current allowable level of atrazine in human drinking water is 30 times higher than this, at 3 ppb.

While atrazine's harms are well known, the true scope of atrazine pollution in the United States has not been widely publicized and remains largely unknown to the general public. For this report we analyzed both water-monitoring and modeling data compiled by the Environmental Protection Agency to identify waterways across the nation that are contaminated with harmful levels of atrazine. These affected networks of lakes, rivers, and streams provide essential drinking water to millions of Americans every single day. Beyond drinking water, they are also used for crop irrigation, public recreation, wildlife habitat, and many other purposes.

## KEY FINDINGS:

- Atrazine is estimated to contaminate nearly 860,000 miles of U.S. rivers at levels known to harm aquatic wildlife. This encompasses over 25% of all river and stream miles in the lower 48 states.
- Harmful levels of atrazine are found on more than 250 million acres, which encompass about one-eighth of the entire landmass of the continental United States.
- Over 20% of the country's drinking-water surface-intake facilities — which provide water for people to drink, bathe, and prepare food — source water from these highly contaminated streams. This highly contaminated area also contains at least 675,000 wells currently supplying potable water to domestic households and commercial properties such as hotels, restaurants, and office buildings.

In addition to mapping the vast scope of nationwide atrazine pollution, we identified five hotspots with some of the highest levels of atrazine contamination in the country:

- 1) Chesapeake Bay
- 2) Midwest Corn Belt
- 3) Lake Okeechobee
- 4) Lower Mississippi River
- 5) Texas Gulf Coast

**RECOMMENDATION:** Atrazine is single-handedly making clean water unavailable for a large portion of the U.S. population and posing long-term dangers to people and wildlife in affected areas. The Environmental Protection Agency, which is right now in the process of considering reapproving this pesticide, should follow the lead of five dozen countries around the world and implement a permanent ban on atrazine.

**Report author and contact:** Nathan Donley at [ndonley@biologicaldiversity.org](mailto:ndonley@biologicaldiversity.org). **Maps by** Connor Phillips.

*A polar bear plunge in Skidmore, Maryland. Photo by Bossi/Flickr CC-BY-NC-SA.*



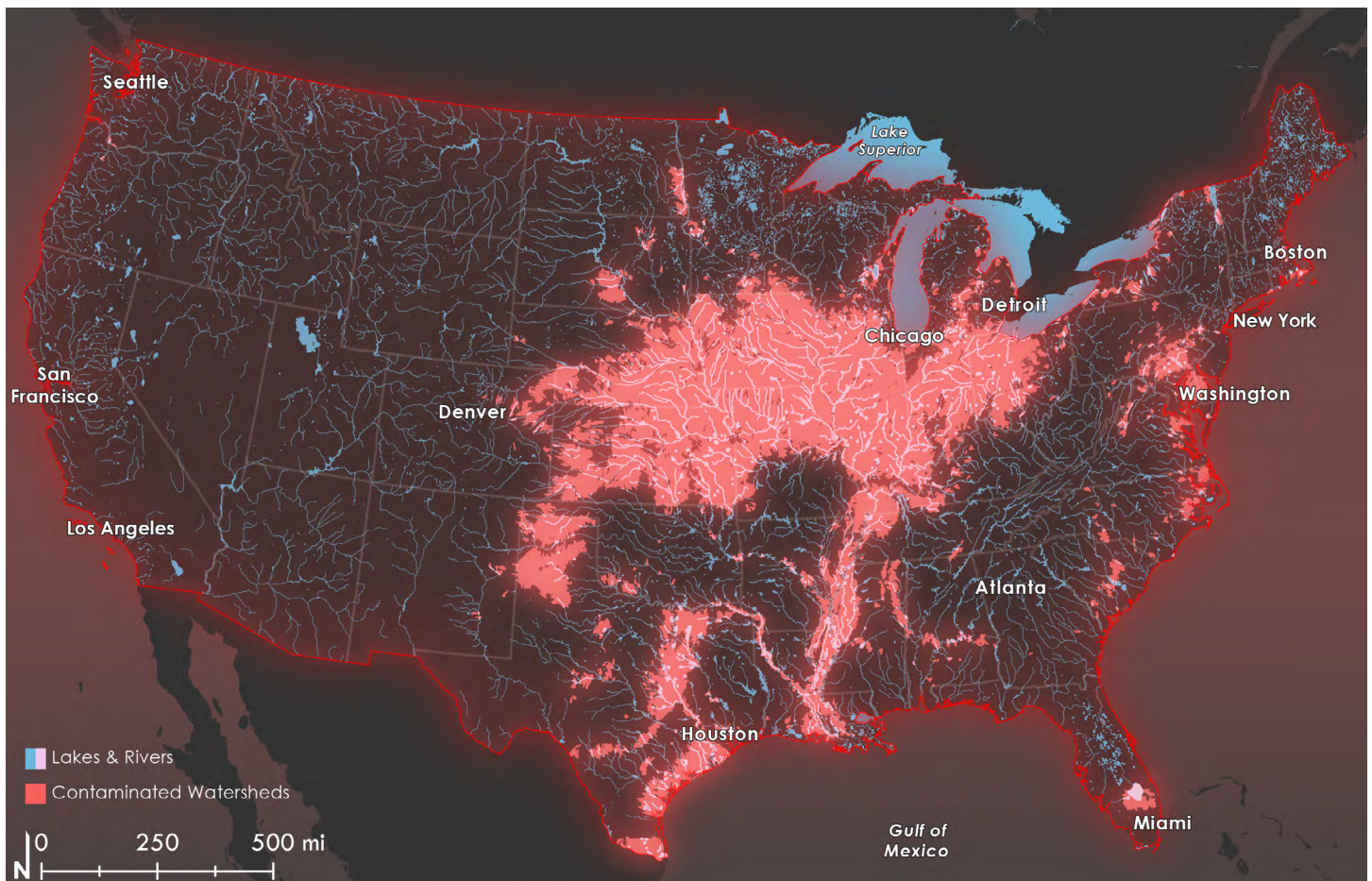
# NATIONWIDE OVERVIEW



Fishing in Arlington, VA. Photo by Diane Krauthamer/Flickr CC-BY-NC-SA.

To map atrazine pollution at the national scale, we analyzed data compiled by EPA on the monitored and modeled levels of atrazine at individual watersheds. We calculated the acreage of the affected watersheds and the mileage of the streams and rivers they contain, as well as determined the number of drinking-water wells and water-intake source facilities that depend on these watersheds' ground and surface water. Our methodology can be found [here](#).

Altogether, watersheds that are contaminated with atrazine at levels recognized to harm aquatic ecosystems ( $>9.7$  ppb) encompass 258,451,869 acres out of a total of 1,928,393,471 acres (13%) in the continental U.S. These watersheds encompass 859,653 river miles of a total 3.2 million river miles (27%) and 675,032 out of a total 4,045,572 domestic or commercial water supply wells with known locations (17%) in the continental U.S. These contaminated watersheds also contain 2,111 active surface-water facilities with known locations (i.e. intakes, reservoirs, infiltration galleries, and springs) out of a total of 9,610 (22%) that provide water for millions of Americans every day.

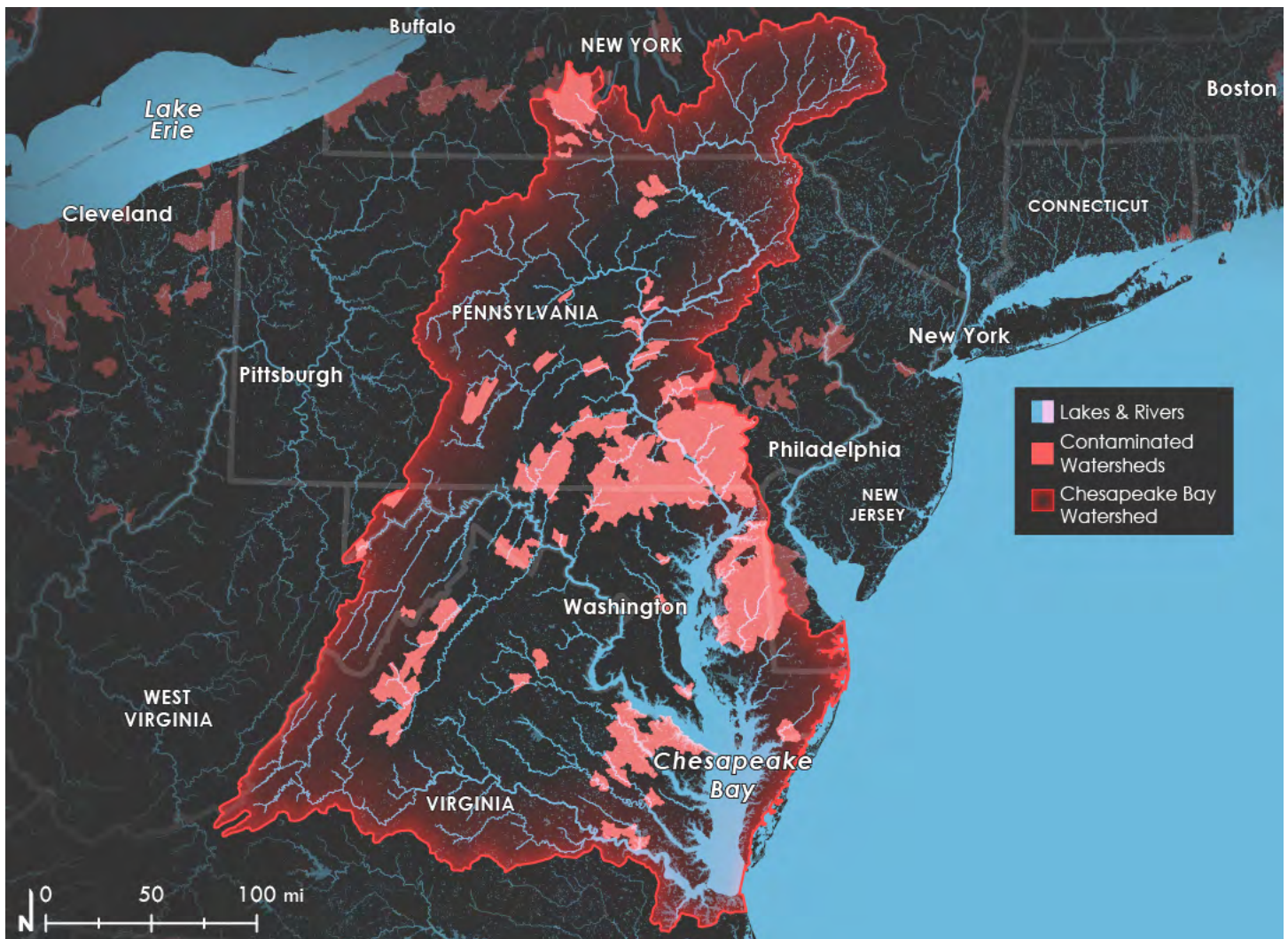


# CHESAPEAKE BAY



The Chesapeake Bay watershed is home to 18 million people and over 3,600 species of plants and animals. Popular recreational activities, like boating and fishing, and the bay's large seafood harvest provide over \$100 billion in U.S. economic value. The aesthetic and economic value of this unique region is entirely dependent on the health of the bay's aquatic ecosystem.

However, over 5.5 million acres of the Chesapeake Bay's watershed, encompassing over 15,000 river miles, is contaminated with atrazine at levels higher than those known to harm aquatic ecosystems. This high level of contamination largely comes from corn being the most widely grown crop in the watershed, resulting in high amounts of atrazine runoff after spraying.

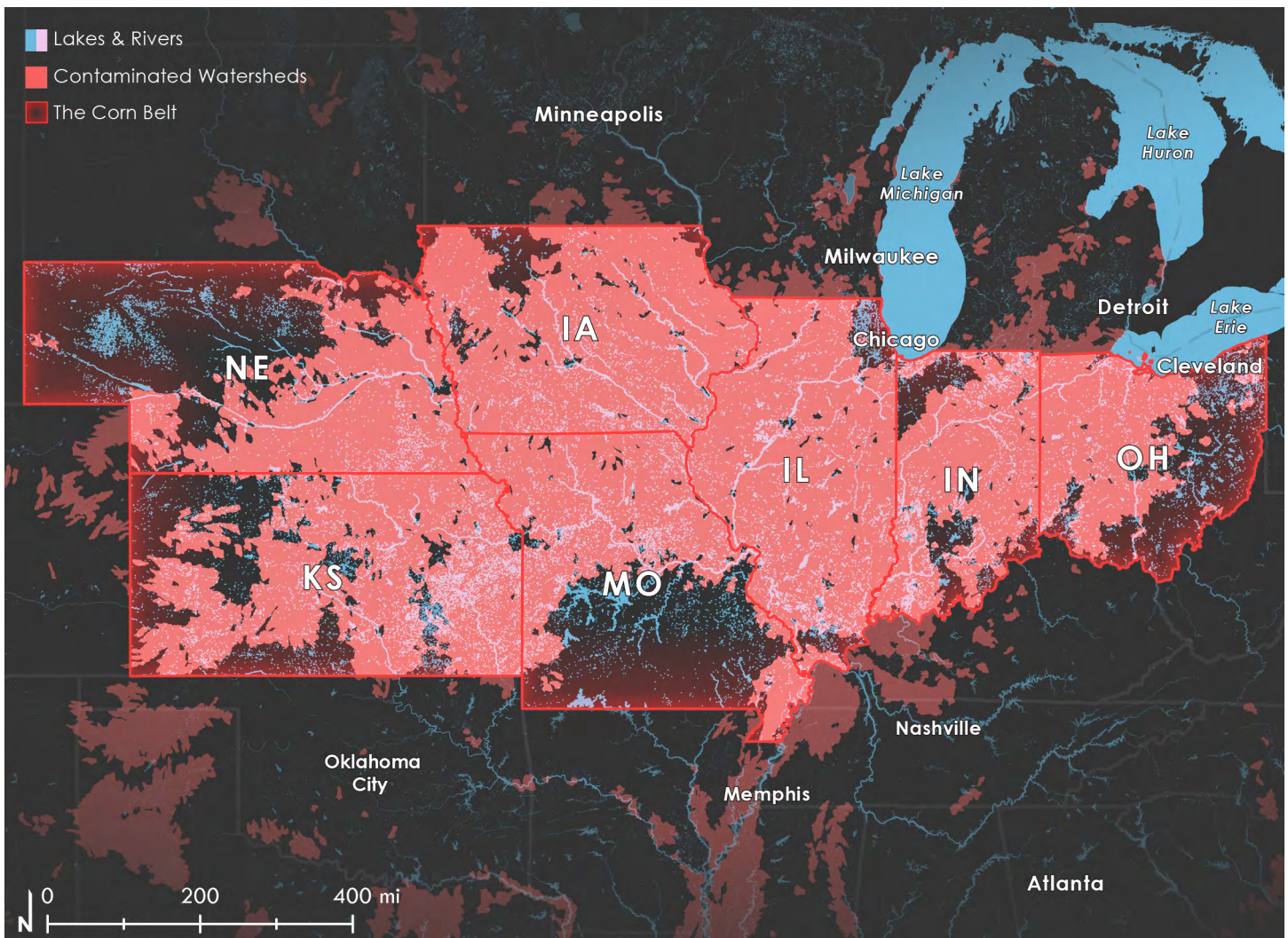


# THE CORN BELT (KS, NE, IA, MO, IL, IN, OH)



The Corn Belt is an agricultural region in the Midwestern U.S. where nearly all of the country's 90 million acres of corn are grown each year. This intensification of agriculture over such a wide geographic area has led to serious ecological and human health harms due to the heavy use of dangerous chemicals in agriculture.

Nowhere is this more evident than with atrazine. The bulk of harmful atrazine contamination in waterways spans this seven-state region. States in this region have rapidly rising [cancer diagnoses](#) in young adults compared to the rest of the country. Over two thirds (68%) of the total river miles in these seven states (657,066/962,081) are contaminated with dangerous levels of atrazine. This encompasses over 50% of the region's wells (485,355/947,622) and 68% of the region's drinking-water system surface-intake facilities that have validated geographic coordinates (705/1,036).



# LAKE OKEECHOBEE

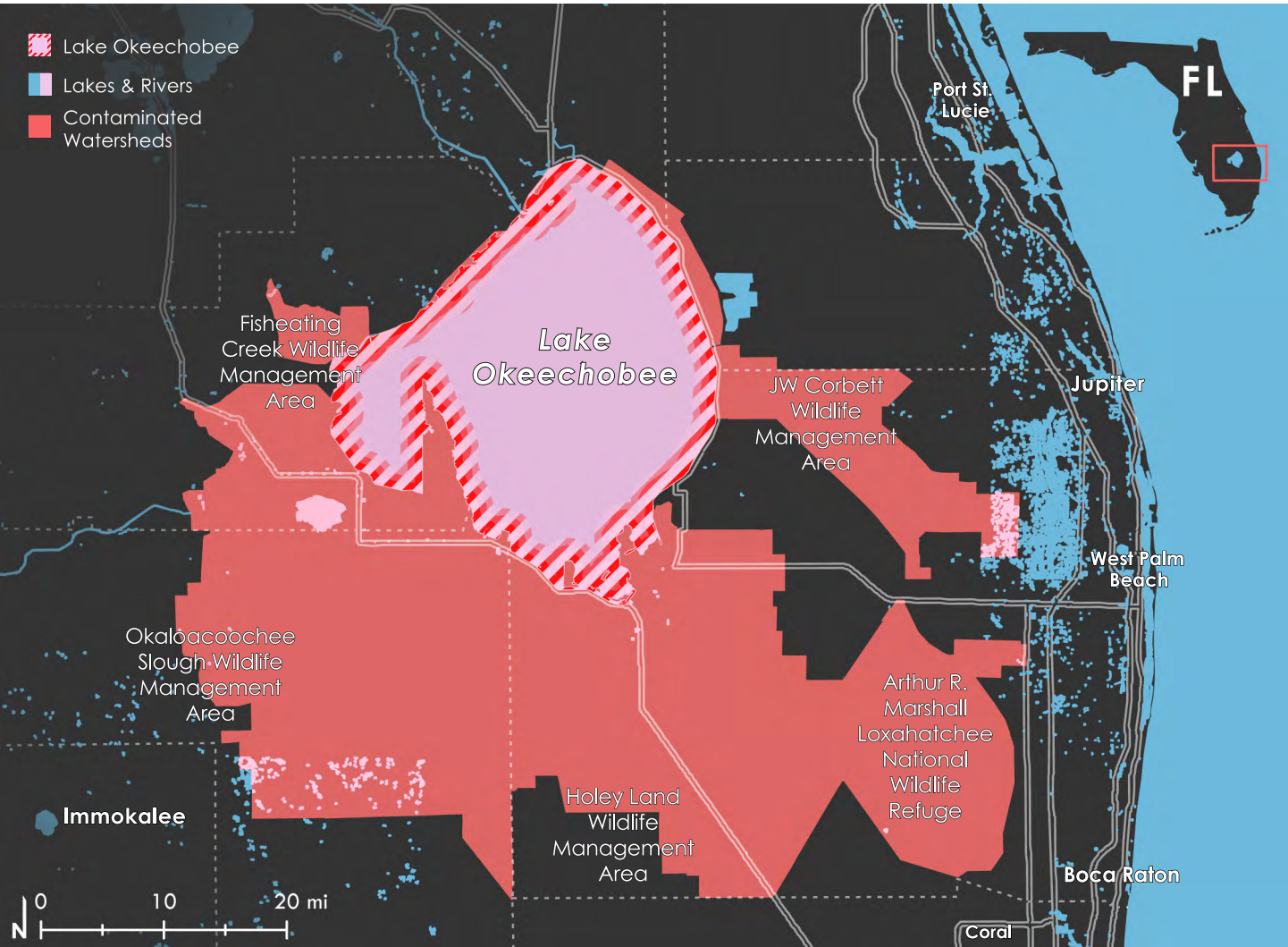


Bass fishing in Lake Okeechobee. Photo by Ronald Woan/Flickr CC-BY-NC.

Spanning 730 square miles, Florida’s Lake Okeechobee is the second-largest freshwater lake in the continental United States. The lake has 18 different boat ramp access locations to support popular recreational activities like boating and fishing.

Supporting thousands of species of plants and animals like manatees, alligators, eagles and storks — and game fish like largemouth bass, black crappie and catfish — the lake is a vital nexus where human recreation intersects with an essential, vibrant ecosystem.

High atrazine concentrations in the lake come from atrazine spraying on the half a million acres of nearby surrounding sugarcane fields.



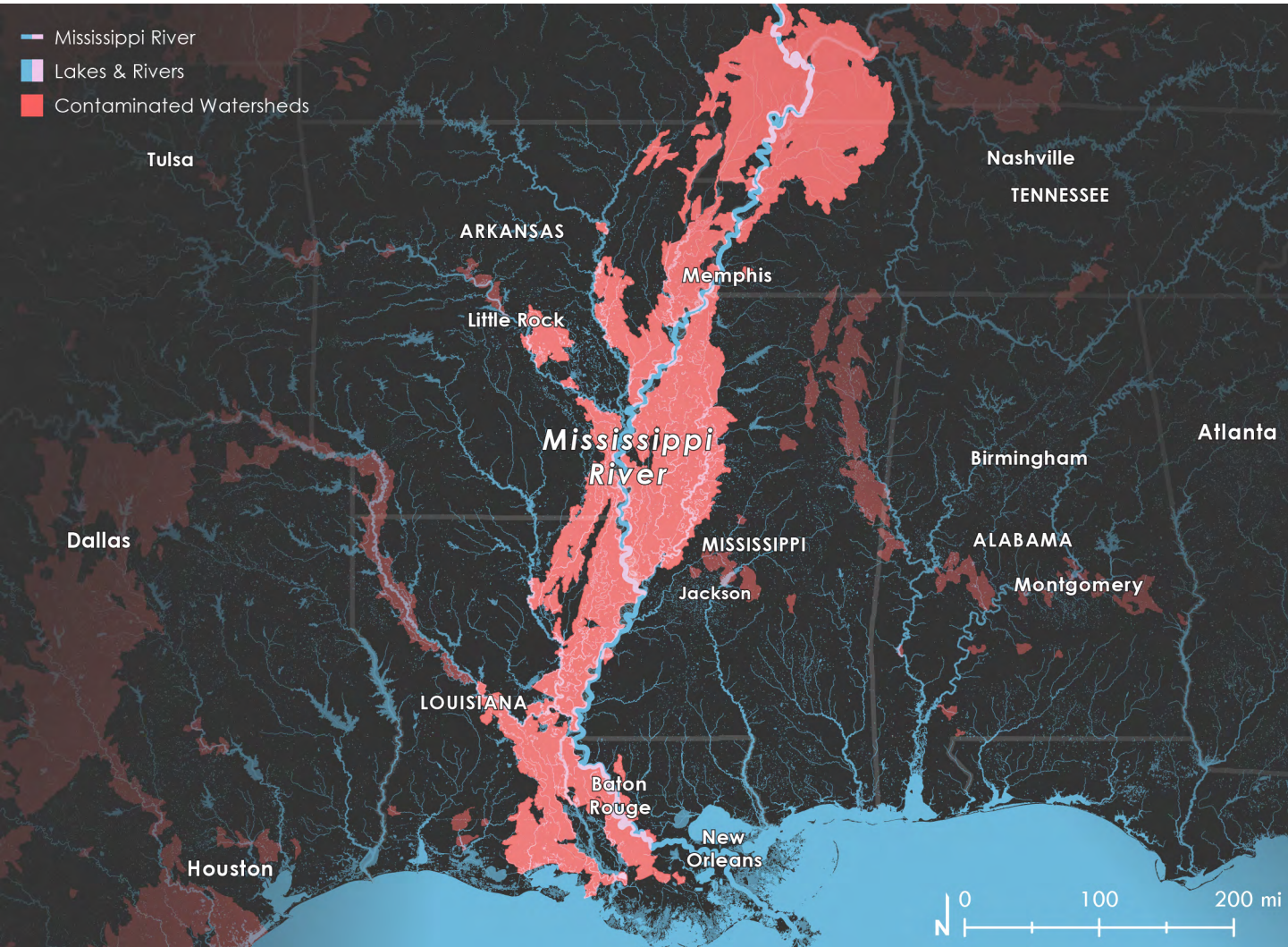
# LOWER MISSISSIPPI RIVER



Water from over 40% of the continental United States flows down the Mississippi River to the Gulf of Mexico. The lower portion of the river supports widespread agricultural intensification, with corn and sugarcane being two widely grown, atrazine-treated crops in the region.

The Mississippi River is home to 25% of all fish species in North America and 60% of North American birds use the river basin for migration. Atrazine-contaminated watersheds run nearly the entire length of the lower Mississippi, many at concentrations over 5 times the level EPA has found harmful to aquatic ecosystems.

This poses a threat not only to the wildlife that uses this river but also to the 20 million people who get their drinking water from the Mississippi.



# TEXAS GULF COAST



The Texas Gulf Coast from Corpus Christi to Galveston is a vital region for migrating birds, unique aquatic wildlife, and human recreation. With warm waters and long sandy beaches, swimming is a popular activity here. The area is home to significant corn and sorghum operations featuring heavy atrazine use.

Over 6 million acres of watershed in this region, covering more than 6,000 river miles, are contaminated with atrazine levels that can harm the aquatic health of this region. Texas is the state with the most public water utilities [reporting](#) atrazine contamination, with nearly 15 million people in the state drinking atrazine-contaminated water.

