

ENVIRONMENTAL RISK FACTORS AND IOWA'S CANCER CRISIS

2026 REPORT



The Harkin Institute



Iowa
Environmental
Council



2nd

**highest rate of new cancer diagnoses
in the US**



1

**of only 3 US states where cancer rates
are increasing, not decreasing**

Source: Iowa Cancer Registry

The Cancer and Environmental Risk Factors Project

LISTENING SESSIONS

IEC, The Harkin Institute, and Iowa Farmers Union hosted in-person listening sessions in 2025

- **Spoke with 558 Iowans**
- **80% of attendees felt that they did not have enough information about how the environment influences cancer rates in their community.**



RESEARCH REPORT

Defining the scope of our literature review and analysis:

1. Pesticides

2. PFAS

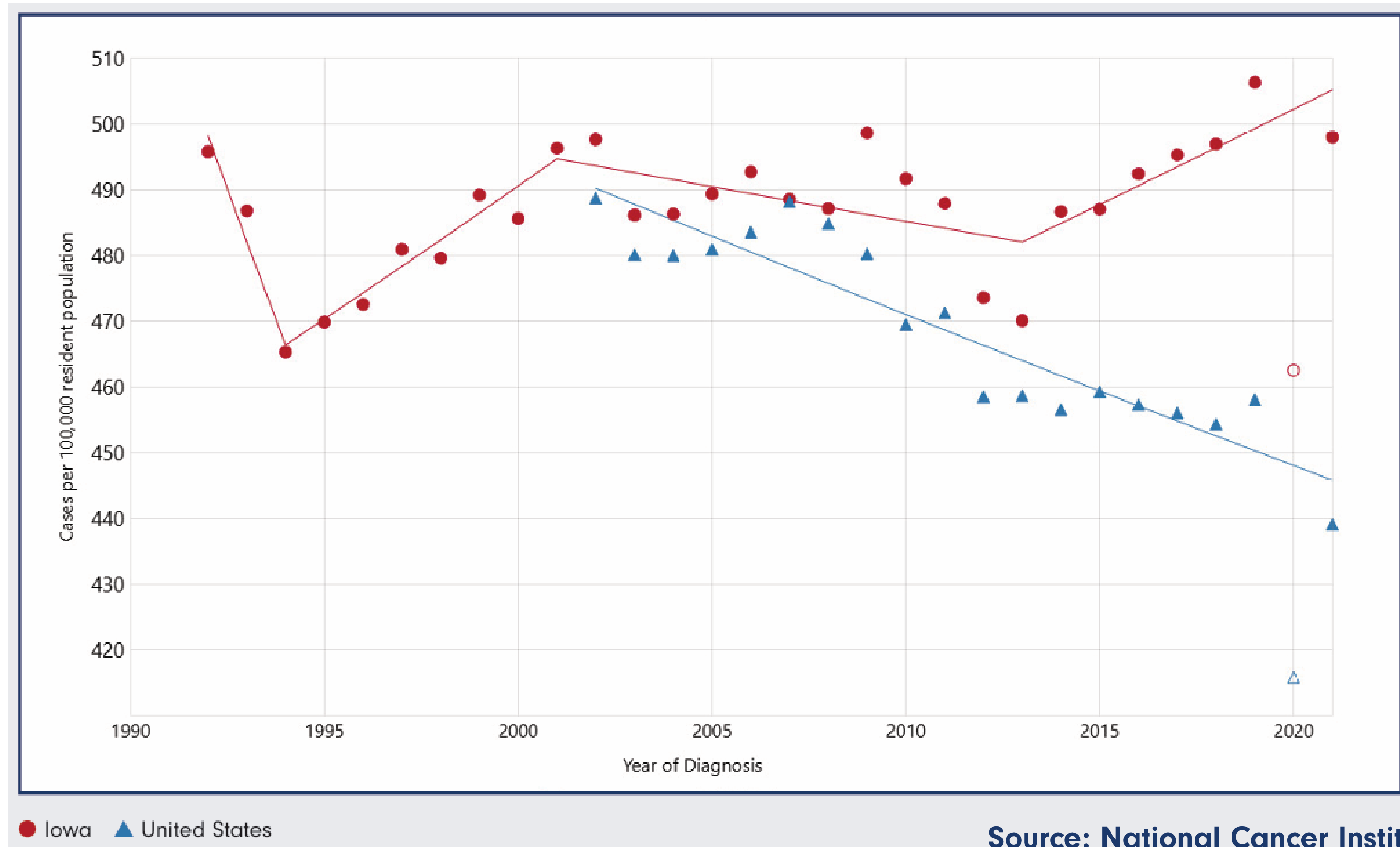
3. Nitrates

4. Radon

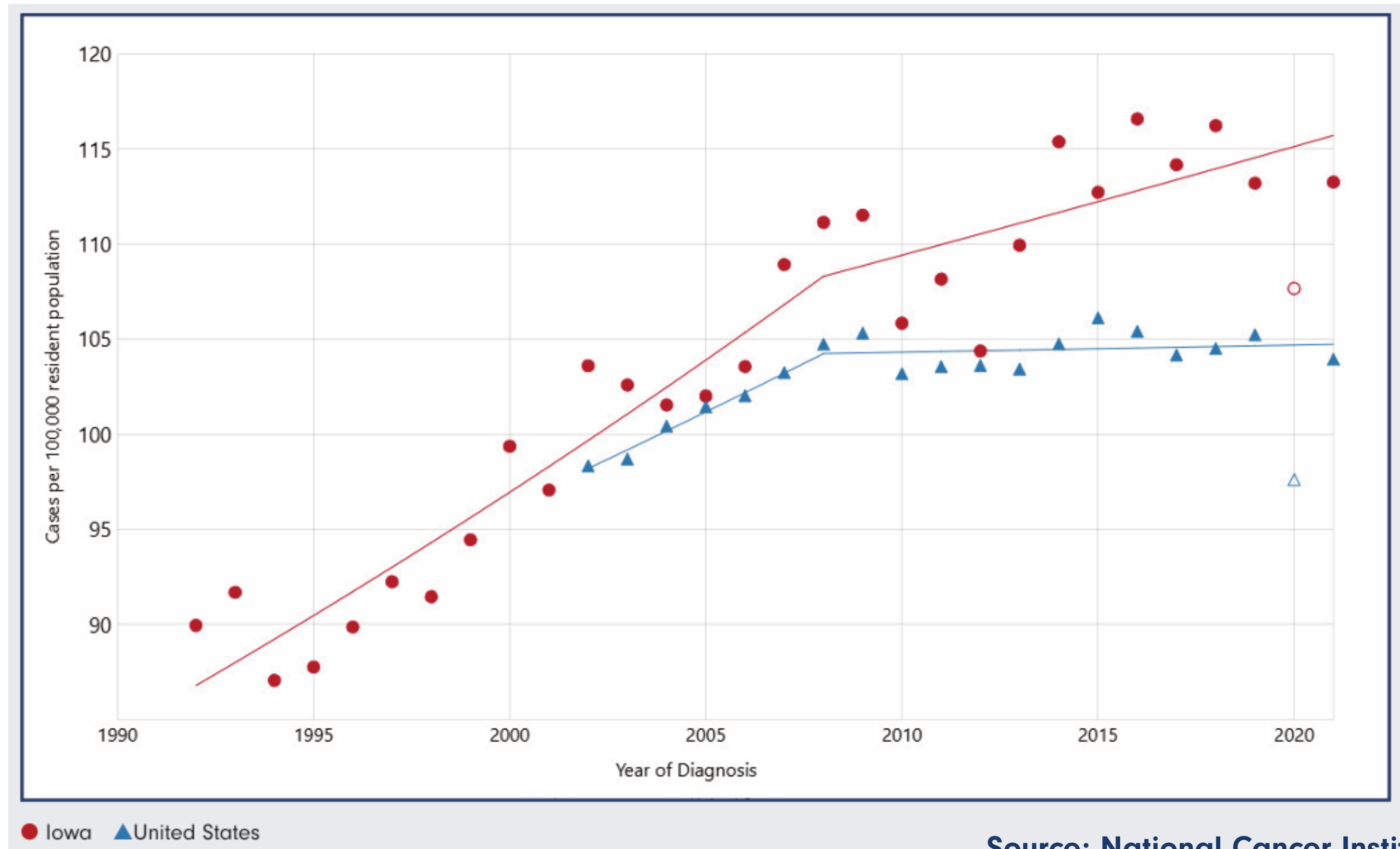
5. Additional Environmental Risk Factors

REPORT FINDINGS

Cancer Incidence in Iowa and the United States, All Ages (1992 – 2021)



Trend in Cancer Incidence in People Under 50 – Iowa and U.S.

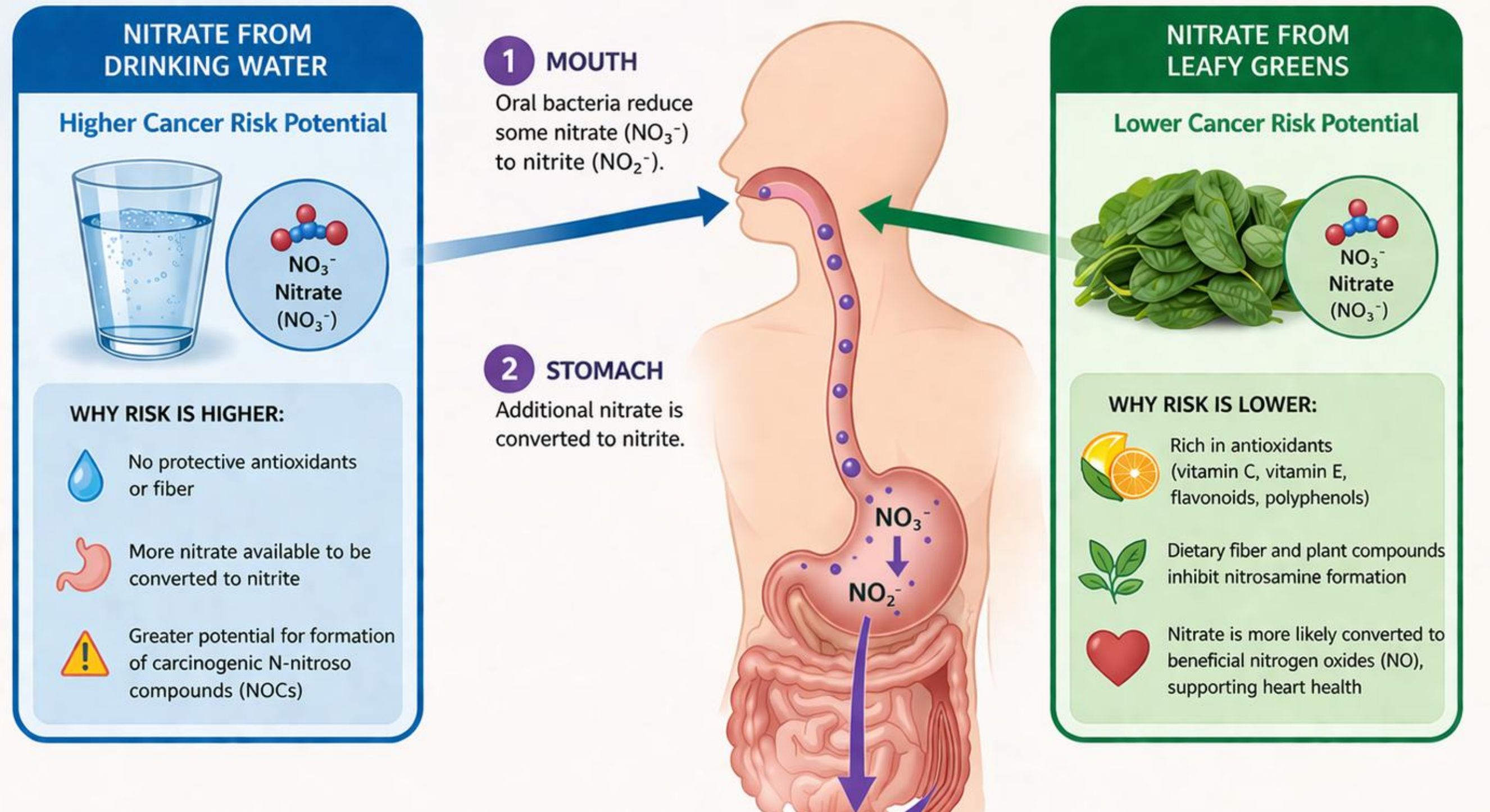


Source: National Cancer Institute

NITRATE

NITRATE

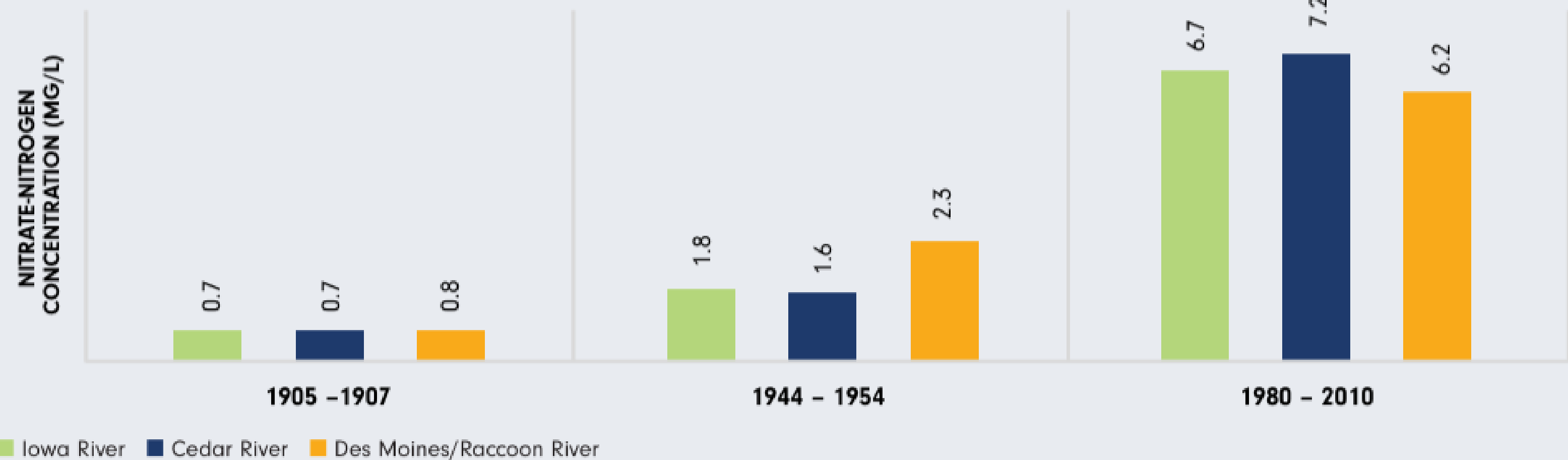
HOW INGESTED NITRATE MOVES THROUGH THE BODY AND WHY THE SOURCE MATTERS



NITRATE

The Des Moines and Raccoon rivers rank in the top 1% of rivers nationwide for nitrate concentration.
(Central Iowa Source Water Resource Assessment, 2025)

FIGURE 3.2 Long-Term Historical Nitrate Concentrations in Iowa's Rivers

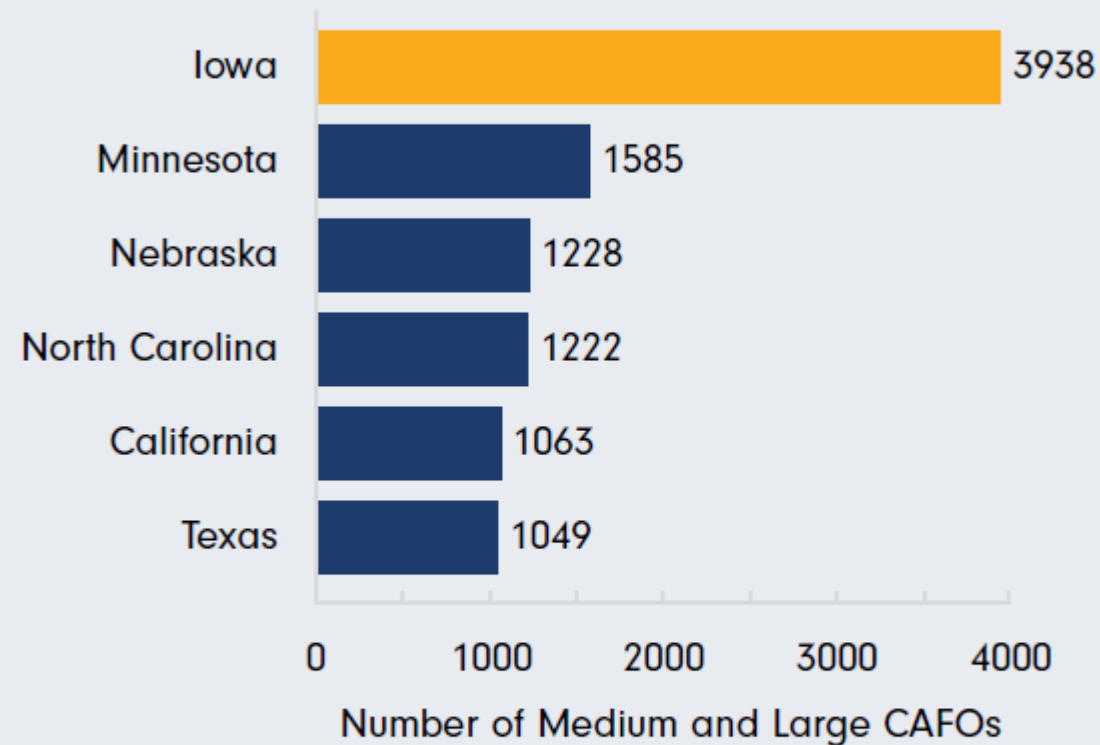


Source: Data derived from CISWRA, 2025

NITRATE

Iowa has 2.5 times more CAFOs than any other state
(U.S. EPA, 2025)

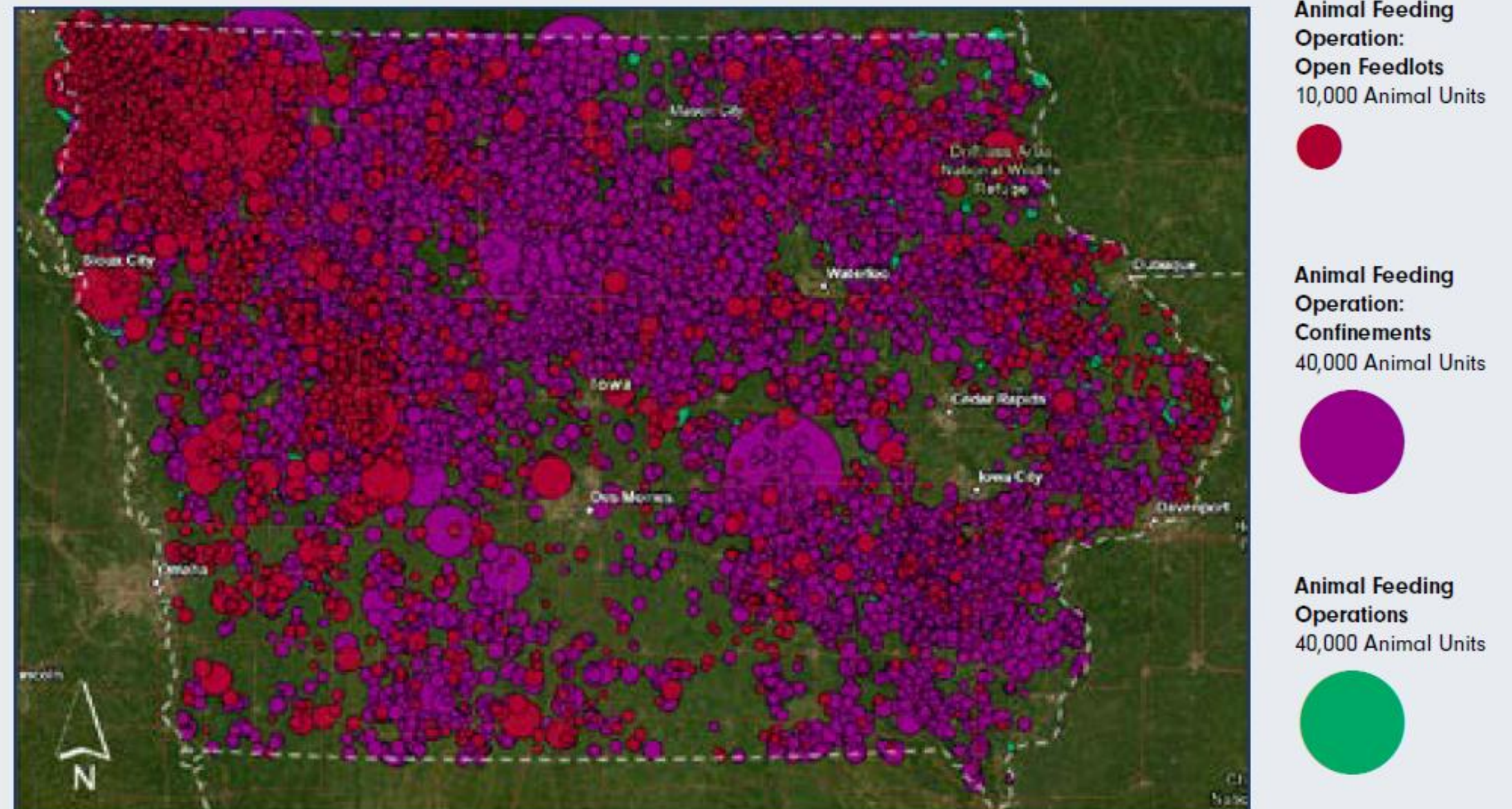
FIGURE 3.4 Number of EPA-Identified Animal Feeding Operations (AFOs) by State (2024)



Note: Includes AFOs that meet the NPDES regulatory definition of a Medium CAFO plus AFOs that meet the NPDES regulatory definition of a Large CAFO, with or without an NPDES CAFO permit.

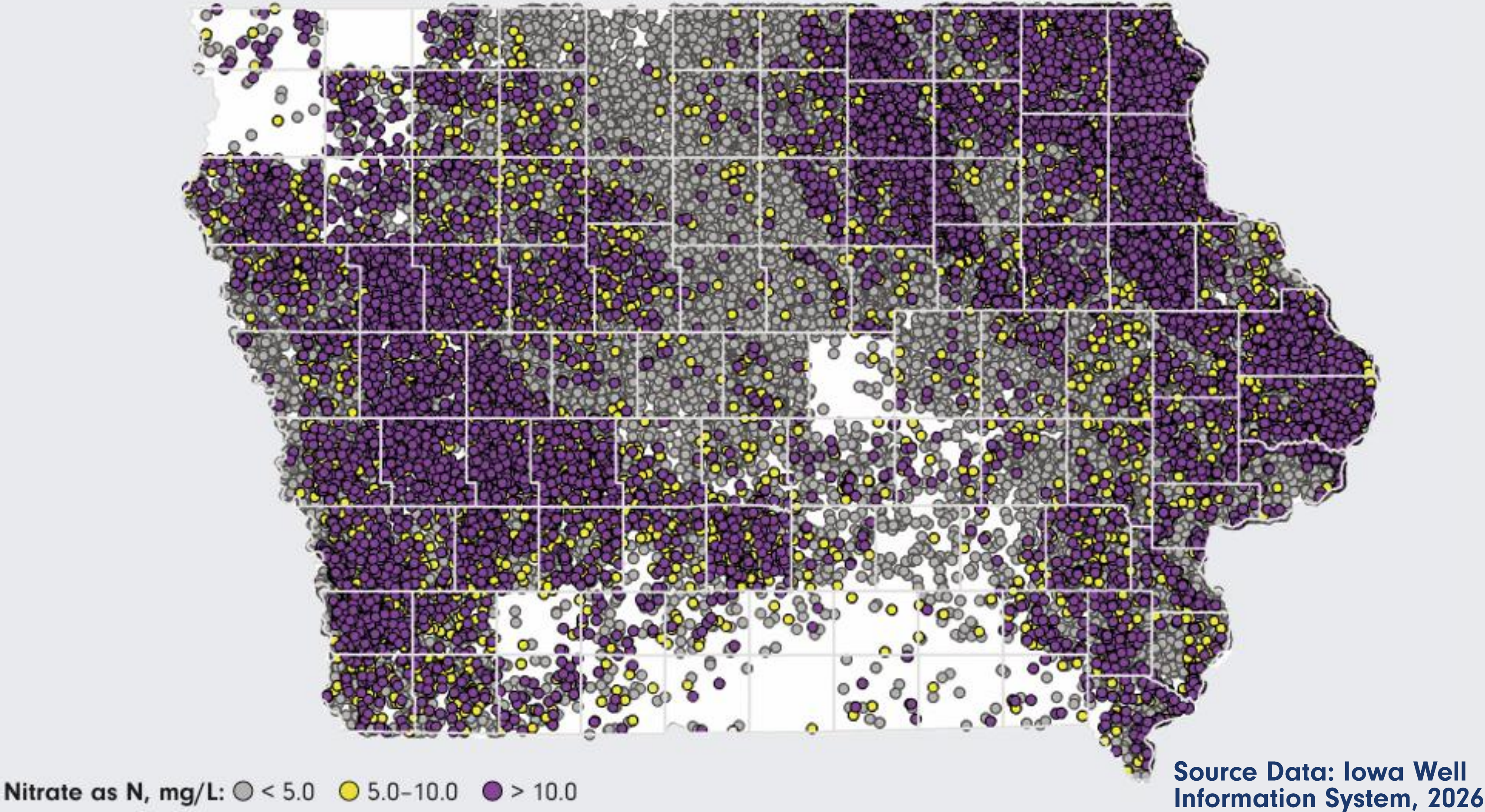
Source: EPA 2024 NPDES CAFO Permitting Status Report (2025a)

FIGURE 3.5 Animal Feeding Operations (AFOs) in Iowa (2024)



Source: Kohrt, C. & IDNR, 2024

Observed Nitrate Concentrations in Iowa Private Wells (2000 – 2024)



NITRATE

- EPA's maximum contaminant limit was established to prevent blue-baby syndrome, not reduce cancer risk
- Internal biological processes leading to cancer are known
- Cancer connections:
 - **Colorectal**^{*†}
 - **Ovarian**
 - **Bladder**
 - **Kidney and Renal Pelvis**^{*}
 - **Thyroid**
 - **Prostate**[†]
 - **Childhood Brain**

In many studies, associations with cancer were evident at nitrate concentrations below the current drinking water standard of 10 mg/L NO₃-N.
(Christensen et al., 2025)

Red: Rising or exceeding national rate

^{*} Top 5 fastest-rising cancer (under 50)

[†] Top 5 most common (all ages)

RECOMMENDATIONS

- 1. Effective, Standards-Based Enforcement of Pollution Limits**
- 2. Regulatory Reform**
- 3. Monitoring and Transparency**
- 4. Investments in Healthy Air, Water, and Soil**
- 5. Research**

RECOMMENDATIONS

1. Effective, Standards-Based Enforcement of Pollution Limits

- **Reevaluate nitrate drinking water standards (state and federal)**
- **Enforceable watershed management action plans based on watershed modeling and BMP analysis**

RECOMMENDATIONS

2. Regulatory Reforms

- **Review administrative penalty caps**
- **Develop N fertilizer requirements based on groundwater nitrate**
- **Reform tile drainage oversight (BMPs, environmental factors)**

RECOMMENDATIONS

3. Monitoring and Transparency

- **Expand real-time water quality monitoring**
- **Transparency for manure application**
- **State right to know law**

RECOMMENDATIONS

4. Investments in Healthy Air, Water, and Soil

- **State working group for Farm Bill reforms**
- **Private well testing**

RECOMMENDATIONS

5. Research

- **Protect independence of university researchers**
- **Increase research on environmental risk factors**



**SCAN HERE TO LEARN MORE
AND READ THE REPORT.**

QUESTIONS?

IECMAIL@IAENVIRONMENT.ORG