Investigating Environmental Contamination: A Guide for Communities

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JUNE 2019 (Updated April 2022)

Investigating Environmental Contamination: A Guide for Communities was written by the Great Lakes Center for Children's Environmental Health which serves as the Region 5 Pediatric Environmental Health Specialty Unit. It provides technical assistance, telephone consultations, and training by experts on environmental health issues.

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This material was supported by the American Academy of Pediatrics (AAP) and funded (in part) by the cooperative agreement award number 5 NU61TS000237-05 from the Agency for Toxic Substances and Disease Registry (ATSDR).

Acknowledgment: The U.S. Environmental Protection Agency (EPA) supports the PEHSU by providing partial funding to ATSDR under Inter-Agency Agreement number DW-75-95877701. Neither EPA nor ATSDR endorse the purchase of any commercial products or services mentioned in PEHSU publications.

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Investigating Environmental Contamination: A Guide for Communities

"We heard that some of the houses in our community have lead in their water. What can we do to make sure our house is OK?"

6-10 million homes in the U.S. have lead pipes.

"Two children at my daughter's school have cancer. I'm worried there could be something in our neighborhood that is causing it. How can I find out?"

In 2018, an estimated 15,590 children and adolescents will be diagnosed with cancer in the U.S.

"There is a strange smell in our neighborhood sometimes, and we're worried about it. We wonder if it's coming come from the landfill down the road. If we find out it's from the landfill, what next?"

There are over 2,500 active landfills in the U.S. Landfills emit methane and can also pollute soil and groundwater.

For children, environmental exposures can take place at home, outside, and at school or day care. **Children are more vulnerable** than adults to the impacts of toxic chemicals due to their smaller size, immature organs, and faster metabolisms.

Introduction

This guide is for community members who are concerned about environmental exposures in their neighborhoods. The information and resources found here will help you take steps to figure out if contamination is affecting the health of members of your community.

Using this guide will help you to:

Find out the levels of pollution in your air, water, and soil.

Know which government agencies to contact about pollutants in your environment.

Take your concerns about environmental contamination to legislators and policymakers.

Recognize some of the some of the health effects that can be caused by environmental exposures.

This guide covers outdoor pollution in the air, soil, and water in your community. There are other exposures you and your family might experience from the air inside your home (molds, chemicals evaporating from furniture stain treatments and electronics); from the food you eat (pesticides in produce, mercury in fish); from your workplace (hazardous materials and chemicals, biological agents); and from the personal products you use on your body (chemicals in shampoo, hair gel, deodorant, lotions). These exposures and their associated health effects are beyond the scope of this guide. To learn about how to reduce your exposures to the pollutants mentioned in this guide, search online resources like the US Environmental Protection Agency and the national Pediatric Environmental Health Specialty Unit websites.

Neighborhood Assessment

What pollutants are in my neighborhood?

Walk around your neighborhood and look around. Is your house or your child's school or day care close to a highway? That can mean elevated levels of air pollutants like diesel exhaust. Are there factories in your neighborhood? If so, what do they manufacture? Is there a waste incinerator in your community? If you live in a farming community, are pesticides regularly sprayed close to your house or your child's school or day care? These are just a few questions to consider as you think about and observe your community.

The next four sections show you how to look for pollutants that may be contaminating your community. **These sections include tools for overall neighborhood assessment followed by specific tools for air, water, and soil pollution.** These sources are all publicly available on the Internet. For a one page reference of all the tools listed, visit the Resource Quick Guide.

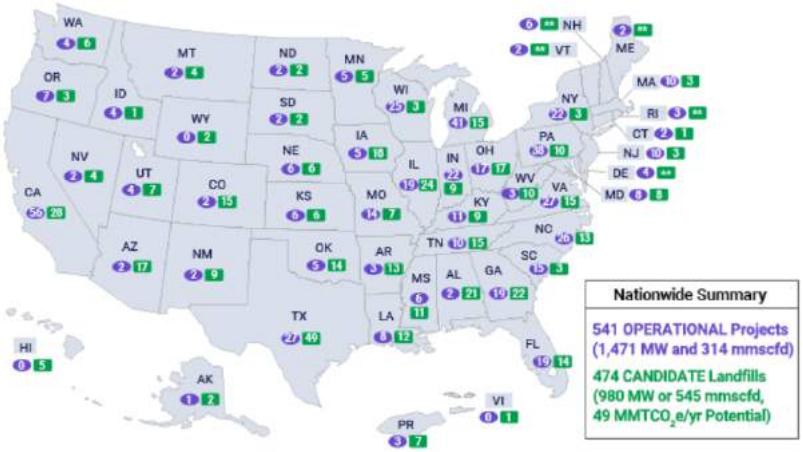
Pollution in your community

Environmental Public Health Tracking

The Environmental Public Health Tracking tool from the Centers for Disease Control and Prevention (CDC) allows users to compare their county and state's environmental statistics with national statistics. The tool has information on things like air quality, extreme heat events, and percent of population living near highways. The image on the right, for example, shows the number of days with unhealthy levels of ozone in Washington County, Ohio.

State EPA landfill maps

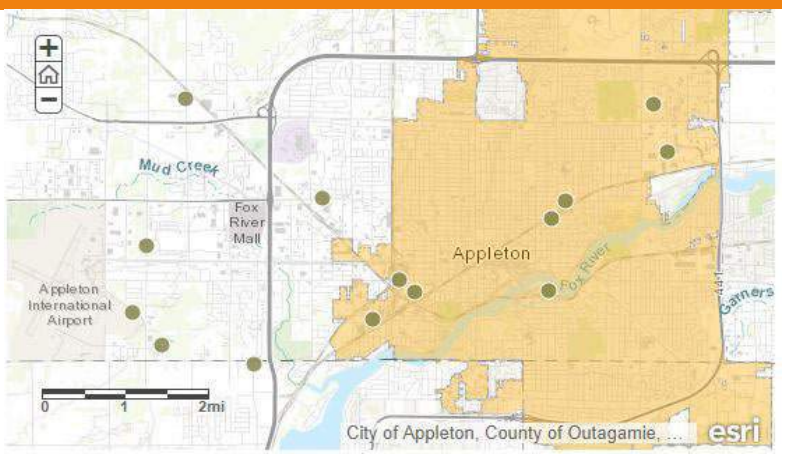
Landfills can emit pollution to water, soil and air. Search your state's website to identify the location of landfills. In Illinois, for example, the Illinois Environmental Protection Agency (EPA) landfill map provides this information online.



Neighborhood Assessment

Toxic Release Inventory (TRI)

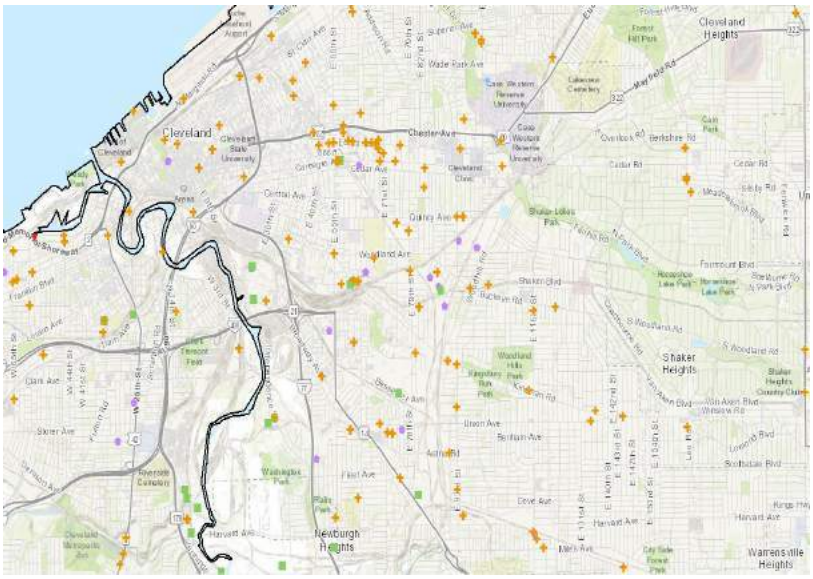
USEPA's Toxics Release Inventory (TRI) provides data on toxic chemical releases and pollution prevention activities from facilities across the U.S. Users can see how many TRI facilities operate in their community, check which chemicals are being released, track releases over time, and compare toxic chemical releases and pollution prevention efforts across different facilities. You can search by state, metropolitan area, facility, tribe, or watershed.



Example: A map of industrial facilities in Appleton, Wisconsin from TRI. In 2017, Appleton had 16 TRI facilities. Foremost Farms USA was the facility with the most releases. The top chemical released in the air was methanol, while zinc compounds were the highest released chemicals in water.

Envirofacts

USEPA's Envirofacts website is useful if you are interested in searching multiple environmental databases. The tool offers a variety of information about: air, land, water, waste, industry compliance with environmental laws, radiation, and other pollutants.

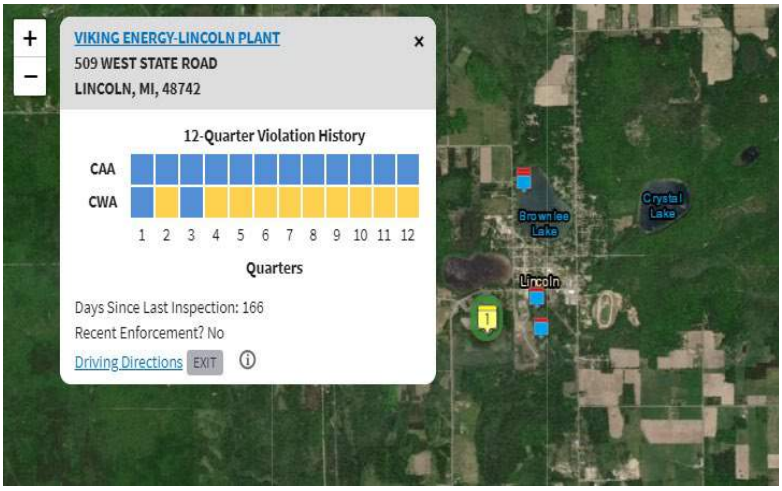


Example: You can use Envirofacts to get information about things like hazardous waste cleanup locations in your community. To the left is a map of sites in Cleveland, Ohio. The orange crosses are Brownfields properties (see Soil Section page 14), the purple pentagons are undergoing cleanup in closed facilities, and the green squares are RCRA Corrective Actions which are cleanups at currently operating facilities.

Neighborhood Assessment

Enforcement and Compliance History Online (ECHO)

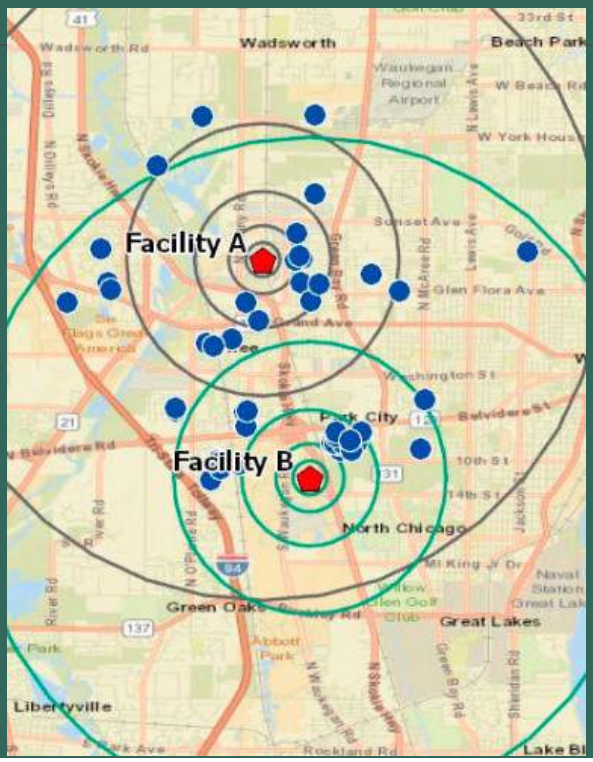
USEPA's Enforcement and Compliance History Online (ECHO) tool allows you to search for facilities in your community and assess their compliance with environmental regulations. You can search for facilities by location, pollutant, enforcement activity (e.g. Clean Water Act), facility name or characteristics and get information on compliance monitoring and enforcement data, EPA enforcement cases, and pollution sources. Visit the tool's quick guide to learn about ECHO's features and how to use the tool.



Example: Information on an energy plant in Lincoln, MI shows it had a violation in 2019 under the Clean Water Act but was in compliance with the Clean Air Act.

Ethylene Oxide

Residents in Willowbrook and Lake County, Illinois discovered that nearby medical sterilization plants were emitting levels of ethylene oxide that raised their risk of cancer. They mobilized, contacted their local municipal officials and state legislators, and worked with the regional EPA and CDC/ATSDR to collect air monitoring data as well as blood levels. The plants were required to install emissions-lowering technologies.



Neighborhood Assessment

Industries that discharge waste to air, water, and soil are required to have permits issued by the state. Finding the permits issued for individual facilities can help you understand which pollutants are being released in your area. The table below lists some databases that might be useful for searching for permits.

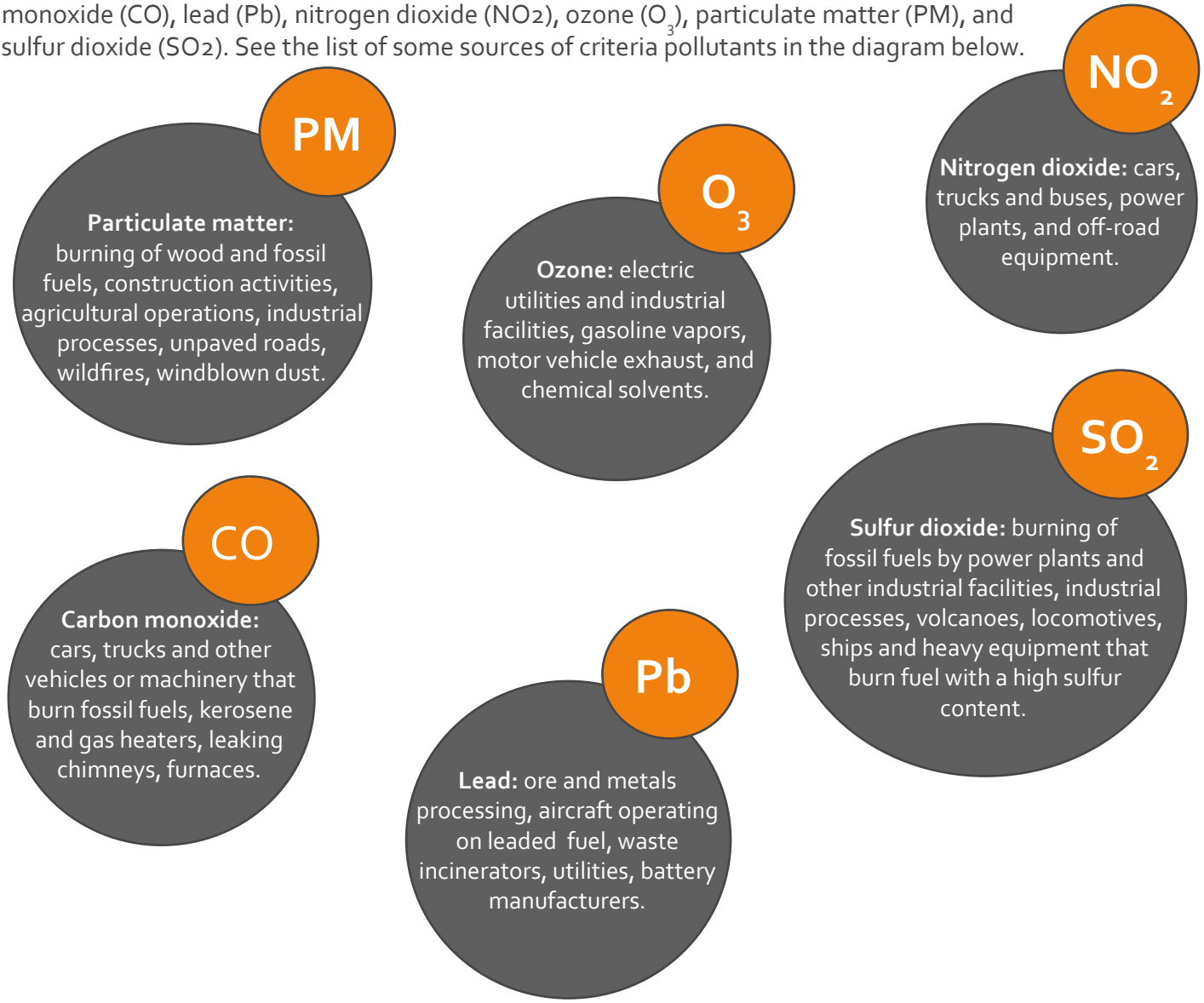
All		
State agencies	State environmental agencies typically work with their regional EPA office on issuing and overseeing permits in their state. In Illinois, for example, the ILEPA's Bureau of Land oversees permits for municipal waste, landscape waste, and construction and demolition debris.	Visit Appendix B. State Contacts for contact information for your state agency.
Air		
Clean Air Act Title V	Under Title V of the Clean Air Act, major sources of air pollutants must: 1. Obtain an operating permit 2. Operate in compliance with that permit 3. Certify their compliance with permit requirements The Region 5 EPA works with state, tribal, and local permitting authorities to issue permits.	Visit https://www.epa.gov/caa-permitting/caa-permitting-epas-great-lakes-region Under State/Tribal/Local Permitting Authorities, choose your state to get information on the responsible agency, state and Region 5 EPA contacts, and other information regarding air permits.
Soil		
Resource Conservation and Recovery Act (RCRA)	Under RCRA, USEPA sets requirements for hazardous waste to ensure the safe management of waste during treatment, storage, and disposal (or 'womb-to-tomb') of hazardous waste. The Region 5 EPA and states issue the permits.	This searchable table allows you to find facilities in Region 5 that have drafted or been issues a hazardous waste permit.
State agencies	State environmental agencies typically oversee the issue of permits for solid waste. In Illinois, for example, the IL EPA's Bureau of Land oversees permits for municipal waste, landscape waste, and demolition debris.	Visit Appendix B. State Contacts for contact information for your state agency.
Water		
Clean Water Act-National Pollutant Discharge Elimination System (NPDES)	Under the Clean Water Act, anyone or any facility that discharges pollutants through a point source into water (see pg. 16) must have a NDPES permit. The permit limits what you can discharge, how much you can discharge, monitoring and reporting requirements, and other measures that ensure water quality and human health are not harmed. The NPDES program oversees permits for a wide range of types of pollutants including animal feed operations, pesticides, municipal wastewater, and industrial wastewater.	In the NDPES permit database, select your state of interest to get a list of NPDES permits issued. In some cases, the USEPA has delegated states to issue their own permits and the state agency should be contacted.

Air Pollution

Types of air pollutants

Criteria Pollutants

The USEPA regulates air pollution under the *Clean Air Act* law. This law sets "standards" (allowable levels in the air) for six common air pollutants called "criteria pollutants." The six criteria air pollutants are carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2). See the list of some sources of criteria pollutants in the diagram below.



HAPS

Another group of air pollutants is called hazardous air pollutants, or HAPs. These chemicals are known or suspected to cause cancer or other serious health effects such as birth defects, reduced fertility, damage to the immune system, respiratory problems, and other health issues.

HAPs are typically emitted by factories and other industrial sites. These facilities are required to apply to the USEPA for permits that allow them to legally emit certain amounts of these pollutants. The *Clean Air Act* identifies 187 pollutants as HAPs. Examples include mercury, benzene, and asbestos. Facilities monitor air levels of the pollutants and report them to USEPA, which then publishes the results on the internet.

Air Pollution

Health effects

All of the criteria air pollutants can be harmful to health, especially among vulnerable populations such as children and older adults. Breathing in ozone can harm lung tissue, make it more difficult to breathe deeply, cause shortness of breath and pain when taking deep breaths, increase coughing, and potentially cause chronic obstructive pulmonary disease. It can also trigger chest pain, throat irritation, and can worsen asthma, bronchitis, and emphysema.

The health effects of particulate matter depend on the size of particles- small particles less than 10 micrometers in diameter can penetrate deep into the lungs and even the bloodstream. Exposure to particulate matter has been associated with decreased lung function; increased respiratory symptoms including coughing, difficulty breathing, and irritation of the airways; aggravated asthma; irregular heartbeat; and heart attacks.

Who can I call?

If you're concerned about air pollution in your community, start by calling your local health department to explain your concern or question. They should be able to direct you to a local or state contact. Alternatively, call your state public health department and ask to talk with someone about air quality. If you are concerned that a monitor is not located close enough to measure possible pollution in your neighborhood, you can discuss this with your local or state environmental or public health agency.

If you are concerned if contaminants in the air are affecting your health or the health of your family or community, contact a toxicologist or occupational/environmental medicine physician, or your regional PEHSU (Appendix A. Medical and Public Health Associations).

Communities in Action

In 2008, the Chicago Tribune published an article about a community that used air pollution data to bring about change. Using data found on the USEPA website, residents of Chicago's Pilsen neighborhood showed that a local smelter "was the largest industrial source of airborne lead in the Chicago area," according to the article. The group "started badgering elected officials and environmental regulators." Regulators ultimately cited the company for a *Clean Air Act* violation, and the company agreed to reduce its lead emissions. Visit the Advocacy Section in this guide to learn how your community can take action and address environmental health concerns.

Air Pollution

Resources for air pollution

The following tools will help you find which air pollutants are in your community.

USEPA's Air Quality Index

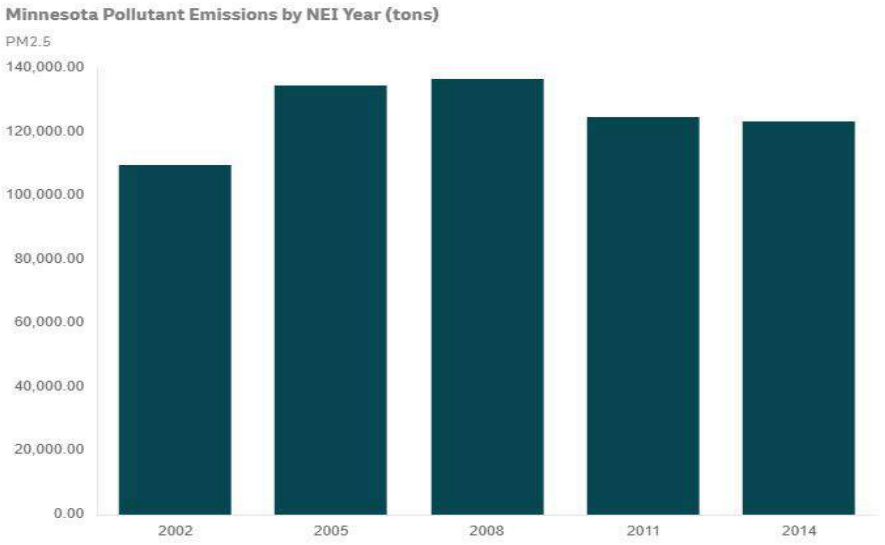
USEPA's Air Quality Index (AQI) is a daily measurement that tells you if any of the criteria air pollutants are elevated in your city. AirNow posts daily AQI conditions for over 400 cities in the U.S. on Facebook and Twitter, via EnviroFlash email alerts, with the free AirNow App, and with a customizable AirNow Widget for your organization.

Air Quality Index Levels of Health Concern	AQI Numerical Value	Meaning
Good	0 to 50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51 to 100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151 to 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 to 300	Health alert: everyone may experience more serious health effects.
Hazardous	301 to 500	Health warnings of emergency conditions. The entire population is more likely to be affected.

The AQI gives a numerical value for air quality. The higher the number, the more pollution and more concern for public health.

The National Emissions Inventory

The National Emissions Inventory (NEI) is a detailed estimate of air emissions that includes criteria pollutants and 187 HAPs. The inventory allows you to look up the emissions of air pollutants in your state and explore by source type and sector. You can create maps, tables, or charts using this tool and compare state and national trends.



Example: PM2.5 emissions from stationary sources (like fossil fuel plants and industrial plants) in Minnesota.

USEPA Air Quality Monitors

You can find out where USEPA's air quality monitors are located online. There has been recent concern about whether air pollution monitors sufficiently measure local sources of pollution. State or local government agencies may carry out additional air quality monitoring in some areas.

Air Pollution

Air Data- Air Quality Statistics Report

The website listed below provides access to outdoor air quality data collected from air monitors across the U.S. Specifically, the Air Quality Statistics Report displays air pollution values for all six criteria pollutants for a particular year by the state or county.

1.) Go to https://www.epa.gov/outdoor-air-quality-data and look under 'Generate Summary Reports'.

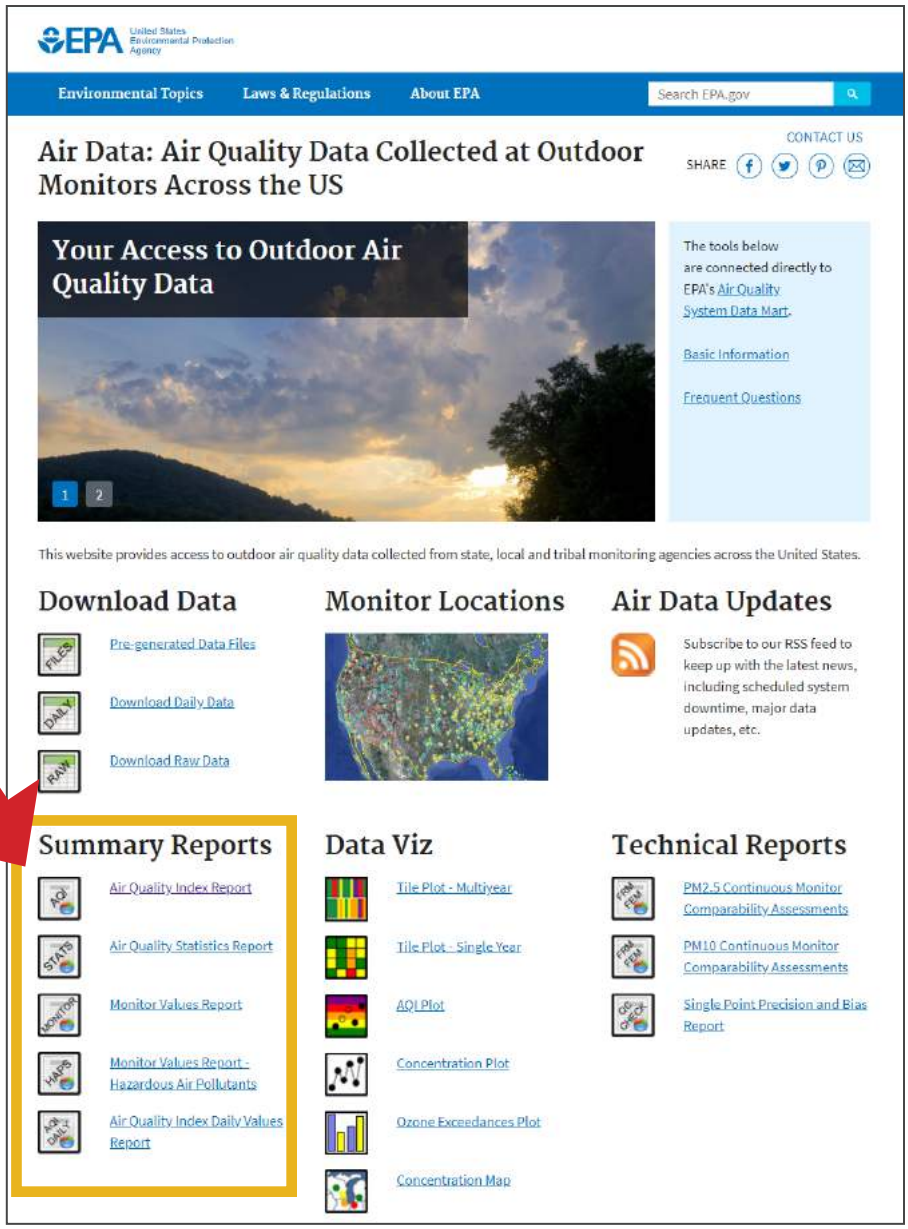
2.) Click on 'Air Quality Index Report' if you're interested in the AQI for counties.

3.) 'Air Quality Statistics Report' displays air pollution values related to national standards for air quality.

4.) Select 'Monitor Values Report' to get a yearly summary of air pollutant(s) based on summary statistics from air monitors. Each row provides summary data for a single monitor location in a single year.

5.) Click on 'Monitor Values Report- Hazardous Air Pollutants' to get yearly measurements for 42 HAPs and other urban air pollutants.

6.) To get daily AQI values for individual criteria pollutants, click on 'Air Quality Index Daily Values Report'.



For more information about the types of reports and information available, visit https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports.

Soil Pollution

Background

Many environmental laws in the U.S. were enacted in the 1970s. Before then, industries often dumped or buried their chemical waste. Nowadays, numerous laws regulate how much pollution companies are allowed to emit and usually require permits to discharge solid waste into the environment. The amount of pollution discharged is recorded and tracked and, depending on what environmental media is being polluted, can be found on USEPA's websites listed below.

Who can I call?

If you are concerned about a specific contaminated site, such as a Superfund site, start by contacting your regional EPA office. You can also reach out to a state's university extension program to learn more about soil testing. Alternatively, you can call your state environmental agency to talk with someone about your concerns or questions regarding contaminated soil in your community.

Health effects

People can be exposed to contaminants in soil by swallowing or touching contaminated soil, eating food grown in contaminated soil, or breathing in contaminated dust from soil. When children play outside they can be exposed by eating dirt or putting dirty hands and other objects into their mouths. Young children are more likely to be exposed to contaminated soil because of their frequent hand-to-mouth activity and because they spend more time on the ground. Very small particles of soil can also be inhaled. When contaminants are in the soil around homes, schools, and in communities, exposure can occur from the ingestion of house dust from dirt tracked inside, which can end up on shoes, indoor surfaces, and toys.

Soil can contain various contaminants such as arsenic, lead, pesticides, or industrial chemicals. Contaminants can affect the body at low-levels of exposure and can cause different symptoms, many of which may be similar to common diseases. It can be challenging to determine if an exposure to a contaminant caused a health problem. If you are concerned if contaminants in the soil are affecting your health or the health of your family or community, contact a toxicologist, occupational/environmental medicine physician, or your regional PEHSU (Appendix A. Medical and Public Health Associations).

Communities in Action

In 2018, the Indiana Department of Environmental Management (IDEM) conducted sampling and monitoring in Franklin, Indiana after residents noticed a higher than average number of childhood cancer cases. Franklin is home to multiple industrial sites, including one former industrial site with a history of contamination problems, notably with trichloroethylene (TCE) and tetrachloroethylene (PCE), which can cause cancer. Some air and soil gas samples showed elevated levels of TCE and PCE above IDEM's limit. Community members have traveled to Washington to urge the USEPA and politicians to take more action and pass stronger restrictions on TCE, PCE, and other toxins. Visit the Advocacy Section in this guide to learn how your community can take action and address environmental health concerns.

Soil Pollution

Resources for soil pollution

The following resources will help you find which soil pollutants are in your community. Areas that are known to be contaminated are categorized by the USEPA according to the table below. More detail is available online.

Site Type	Site Description
Superfund	Superfund sites are abandoned, improperly managed, or openly exposed properties where hazardous waste or other contamination is located. A contaminated site is generally considered a "Superfund site" if the federal government is involved in cleanup efforts. USEPA also offers tools for communities to engage and advocate for meaningful participation during Superfund cleanups.
Brownfields	Brownfield sites are properties on which the presence of a hazardous substance complicates redevelopment. Generally, the federal government is not involved at Brownfields. Rather, state and tribal response programs play a significant role in cleaning up and helping to revitalize these sites. The Land Revitalization Program in Region 5 focuses on restoring land and other natural resources in the Midwest.
RCRA	RCRA sites are facilities that treat, store, and dispose of hazardous substances that may have releases into the environment, thereby requiring cleanup. These are regulated under the *Resource Conservation and Recovery Act* (RCRA).
USTs	Underground storage tank (UST) sites are sites that contain contamination from petroleum products or other hazardous substances that were released from underground storage tanks.
Federal Facilities	Federal facility sites are properties owned or operated by the U.S. Government that may contain environmental contamination from unexploded ordnance, radioactive waste, or other hazardous substances.
State Sites	Sites not addressed by USEPA as Superfund or RCRA sites are often addressed by the state in which the site is located. State cleanup programs can vary considerably. Many states have a state Superfund program or state Brownfield program. Sites vary by state. Search your state's environmental agency's website.

Water Pollution

Background

Water pollution can affect communities if it is present in surface water (like lakes and rivers), groundwater (which may be used in drinking water wells in rural areas), and municipal drinking water. The federal *Clean Water Act* regulates pollutants in water and sets water quality standards for contaminants in surface waters. The *Clean Water Act* makes it unlawful to discharge any pollutant from a point source (like a factory) into navigable waters unless a permit is issued.

Checking for compliance with the *Clean Water Act* takes place largely at the state level. More detail about testing and compliance can be found at online.

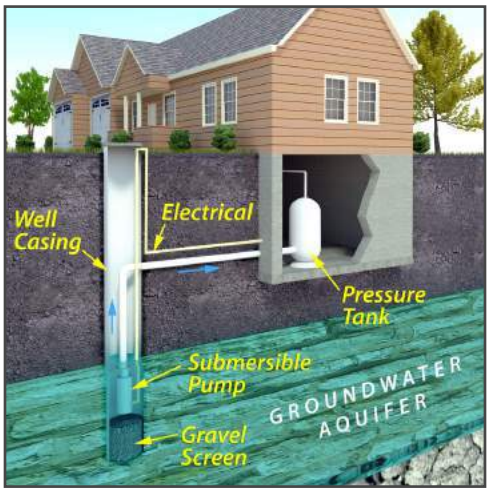
The image on the left is an example of point source pollution- the drainage pipe is a single source of pollution. The pollution pictured on the right is from multiple sources.

Under the *Safe Drinking Water Act,* USEPA establishes standards to protect tap water and requires all operators of public water systems to comply. Standards for contaminants fall into the following categories:

- **Microorganisms** – bacteria, viruses (enteric), spores
- **Disinfectants** – chlorination products
- **Disinfection Byproducts** – chemicals formed by the breakdown of chlorine products
- **Inorganic Chemicals** – examples include lead, arsenic, cadmium, and nitrate
- **Organic Chemicals** – solvents, other industrial chemicals, runoff/residue from pesticides
- **Radionuclides** – radiation

More than 100 common contaminants are regularly monitored. Public drinking water systems must meet requirements for monitoring and reporting. USEPA and states review results of testing of water samples from public water systems. Standards and treatment techniques that apply to public water systems are found at on the National Primary Drinking Water Regulations website.

Private household wells are not regulated by USEPA. Owners of private wells are responsible for obtaining testing of their well water at their own expense.



Water Pollution

Health effects

Contaminants in water affect our health when we drink it, cook with it, or use it to water agricultural produce and livestock. Pollution in rivers and other waterways can affect us when we swim in it or eat seafood from it. Water can contain various contaminants such as pesticides, mercury, arsenic, or industrial chemicals. Each contaminant affects the body differently, and it can be challenging to determine if an exposure to a contaminant caused a health problem. A toxicologist, occupational/environmental medicine physician, or PEHSU physician can help you determine if contaminants in the water are affecting your health or the health of your family or community (see Appendix A. Medical and Public Health Associations).

Lead contamination

Lead in drinking water has been a concern in a number of communities. Plumbing that provides water from the water main to the home, called the service line, as well as plumbing inside the home, may be leaded or have lead solder. USEPA's *Lead and Copper Rule* requires utilities that could have lead or copper in the water to add an anti-corrosive chemical that prevents lead leaching from plumbing. Some cities and towns are replacing older service lines that contain lead. In some cases, municipalities may share the cost of replacement with the homeowner.

Who can I call?

For information about the quality of your drinking water, call your local water department or your local county or state health department. If you have a private drinking water well, you will likely need to make your own arrangements with a private contractor to have it tested.

Communities in Action

In 2014, the city of Flint, Michigan changed its drinking water source from treated water to a polluted river and neglected to add chemicals to prevent corrosion and leaching of lead. A resident whose children broke out in rashes began to investigate. Ultimately, a professor of civil and environmental engineering at Virginia Tech worked with residents to evaluate lead levels in Flint's tap water, and a local pediatrician shared the blood lead level results. Elevated levels of lead were found in the drinking water and in children's blood test results. Visit the Advocacy Section in this guide to learn how your community can take action and address environmental health concerns.

Water Pollution

Resources for water pollution

State and local government websites may provide reports on your water quality. A variety of national water quality datasets, listed in the table below, are available. In urban areas, common contaminants include pesticides and lead, while water in more rural areas may contain arsenic or agricultural chemicals from runoff. Utilizing information from databases like Superfund and TRI (listed in previous sections) is a good start to identify pollutants of concern in water. You can also contact your state environmental protection agency or a university extension.

If you learn that there are elevated levels of contaminants in your drinking water, you can compare the levels to state and federal drinking water standards. States issue "health advisories" when water contamination poses a health risk related to drinking, swimming, or recreational activities.

Source	Description
Environmental Working Group	Tap Water Database: a searchable database that allows you to enter either a zip code or state to see what is in your tap water. The database is based on data from the USPEA, state agencies, and water utilities. Information includes detected contaminants, sources of pollution and comparison of local, state, and national contamination levels.
Local municipal water quality report	Local water quality report: may also be called a Consumer Confidence Report. Published annually for community water systems. Typically gives information on source of drinking water and levels of contaminants such as lead, fluoride, and chlorine. Google the town/city of interest and 'water quality report'.
USEPA	Safe Drinking Water Information System: contains information about public water systems and their violations of USEPA's drinking water regulations under the *Safe Drinking Water Act*. Allows you to locate drinking water supplier and view its violations and enforcement history for the last ten years.

Sources for health data

Are there elevated rates of disease in your community that might be related to environmental pollution? Local and state health departments, as well as state vital statistics offices, may collect some or all of the data on illnesses that are potentially related to environmental exposures, such as those below. They may address disease rates in a state or also in particular regions or cities. Call your local and state health departments to find out which of these data are collected and where you can access them, and check out the resources below.

Check your local hospital

Probably the best source of disease data is your local Community Health Needs Assessment (CHNA). Every hospital is required to publish a CHNA to identify health needs in the area it serves. Some hospitals partner with local health departments, and reports are typically published on the hospital's or health department's website. CHNAs often include local rates of asthma, premature births, heart disease, and diabetes, all of which may be associated with exposure to environmental chemicals. For example, the chart to the right is taken from the Cuyahoga County Community Health Assessment published on the University Hospitals - Rainbow Babies and Children's (Cleveland). It shows the rate of premature births at the city and county level.

Percent of Live Births that are Premature, 2016:
Cuyahoga County and the City of Cleveland Compared to the National Benchmark

Indicator	Cuyahoga County[2]	City of Cleveland[2]	National Benchmark*
Percent Premature Births per 100 Live Births	11.9%	14.5%	9.4%[a]

Does not meet the national benchmark. Requires a closer look.

To find hospitals near you, go to the EJSCREEN tool. On the top of the map, select 'Add Maps' --> 'Additional Layers' --> 'Places.' Make sure the checkbox next to Hospitals is activated. To find the name of a hospital, right click its icon on the map and look at FEATURE_NAME.

Asthma: Data on asthma rates are typically collected by state governments. For example, the Illinois Department of Public Health provides various types of asthma data according to geographical areas within the state on its "Illinois Asthma Surveillance" website. Local health departments may also have this data. Data on asthma rates by state, as well as additional asthma data, can be found on the website of the CDC under "Asthma: Data, Statistics, and Surveillance."

Birth defects: Some chemicals can cause birth defects if the pregnant woman is exposed to them during her pregnancy. Finding a higher birth defect rate in your area may indicate exposure to a local source of pollution. According to the CDC, 43 states have birth defects tracking programs. The CDC funds 14 population-based state programs, 3 of which are in Region 5: Illinois, Michigan, and Minnesota. Contact your state health department if your state is not one of these.

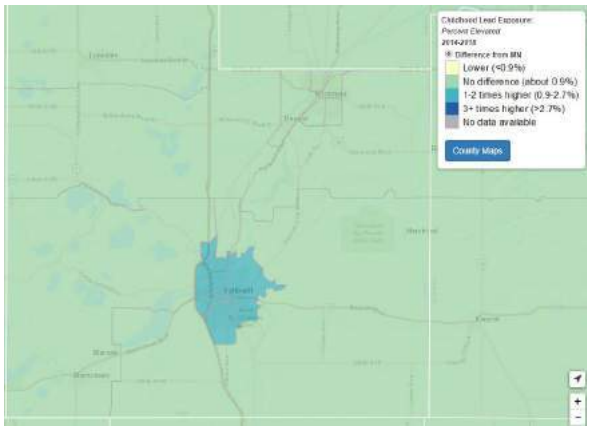
State	# with current asthma	% with current asthma
Illinois	808,252	8.2
Indiana	509,205	10.0
Michigan	837,016	10.8
Minnesota	310,955	7.3
Ohio	888,520	9.9
Wisconsin	428,991	9.5
National	**25,191,000**	**7.9**

2017 asthma data from the CDC for Region 5 states.

Your Health and Environmental Pollution

Blood Lead Levels: Many local health departments collect information on lead levels in young children. All children enrolled in the federal Medicaid health insurance program are required to be tested for lead exposure at ages one and two, as are those ages two to six who have not previously been tested. The CDC provides state-level data on child blood lead levels. State health departments typically report blood lead levels in different geographical areas within their state.

The map to the right, from the Minnesota Dept. of Health, shows childhood blood lead levels by census track for Rice County, Minnesota.



Cancer: Many states have cancer registries that collect data on reported cancer cases. While it is generally not possible to get specific data on the location of individuals with cancer, state health departments often publish annual reports with cancer statistics. For example, the Illinois Department of Public Health provides cancer statistics on the Illinois State Cancer Registry website. Individuals may be able to request data from their state health department about the number of people in a community with cancer, as well as the types of cancer.

The CDC also provides federal statistics on cancer incidence and deaths. You can click on the interactive map to look at data for your state.

Cancer clusters: The CDC defines a cancer cluster as a greater than expected number of cancer cases that occurs within a group of people in a geographic area over a defined period of time. According to the CDC, clusters of health events "may be identified by an ongoing surveillance system, but more often they are reported by concerned citizens or groups." Linking a cancer cluster with an environmental exposure is very difficult to prove; cancer takes years to develop and people move in and out of the cluster area making it difficult to track them down. If you have determined 1) that you have an elevated rate of cancer or other disease in your community, and 2) you have identified a source of pollution, it's time to make some noise with your local health department, regional office of Agency for Toxic Substances and Disease Registry (ATSDR), or local and state health departments. They should address your concerns to your satisfaction.

When using these resources and tools, it's important to always keep in mind that the occurrence of an exposure and a particular health outcome does not necessarily imply a cause and effect. Even if you identify a potential source of pollution, it can be hard to know if it is causing health problems in a community. You usually need help from an expert such as an epidemiologist or an occupational and environmental physician. See Appendix A. Medical and Public Health Associations.

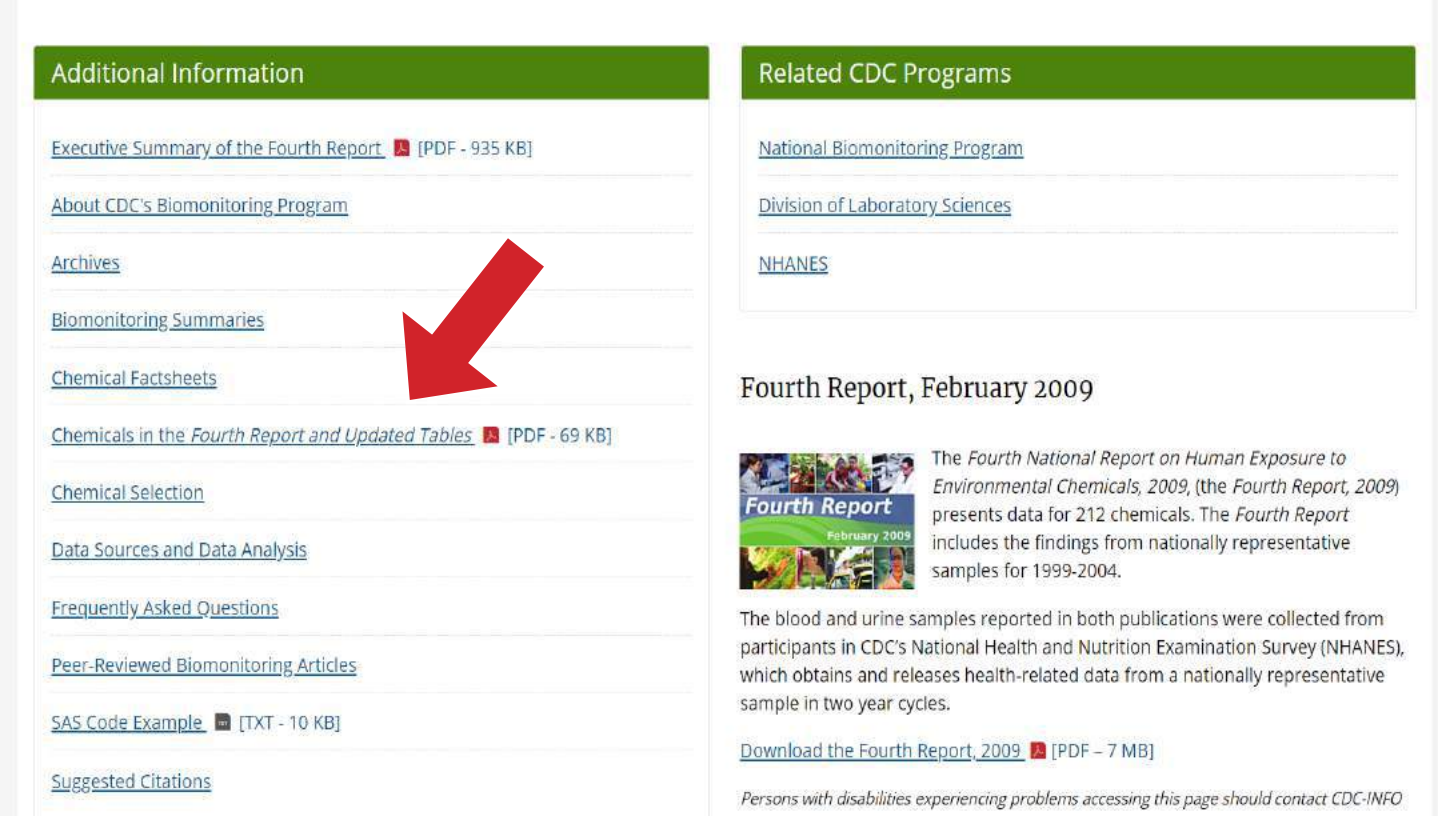
Your Health and Environmental Pollution

Biomonitoring- measuring contaminants in the human body

We are exposed to literally thousands of chemicals on a routine basis; they are in our air, water, food, homes, workplaces, in the clothes we wear, and in the personal care products we use on our bodies. For many chemicals, there are no available tests to determine levels of them in your body, and for other contaminants, testing is expensive and only performed at special labs. Most contaminants don't even have scientific studies evaluating their safety or health effects. For some chemicals, however, biomonitoring is a way to assess levels in a person's body, also referred to as the "body burden," by measuring levels in human tissues and fluids.

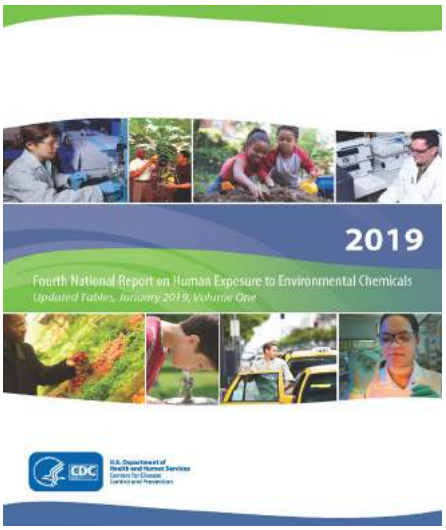
CDC coordinates the National Biomonitoring Program (NBP), which assesses the exposure of the U.S. population to environmental chemicals. Biomonitoring allows scientists to find chemicals in blood and urine, even in a total body amount of less than a teaspoon. NBP measures more than 300 environmental chemicals in a representative sample of the U.S. population. The results are published in the National Report on Human Exposure to Environmental Chemicals.

Scroll down and click on "Chemicals in the Fourth Report and Updated Tables" for a list of all the chemicals included.



Your Health and Environmental Pollution

To find average levels of chemicals in the US population, use Volume 1 of the Updated Tables and click "Control F" to enter the chemical name and search the document.



Urinary Total Arsenic (2003 – 2010)
CAS Number 7440-38-2
Geometric mean and selected percentiles of urine concentrations (in µg /L) for the U.S. population from the National Health and Nutrition Examination Survey.

Categories (Survey Years)	Geometric Mean (95% conf. interval)	50th Percentile (95% conf. interval)	75th Percentile (95% conf. interval)	90th Percentile (95% conf. interval)	95th Percentile (95% conf. interval)	Sample Size
Total population (2003 - 2004)	8.30 (7.19-9.57)	7.70 (6.90-8.90)	16.0 (14.1-18.7)	37.4 (31.6-43.5)	65.4 (48.7-83.3)	2557
Total population (2005 - 2006)	9.29 (8.05-10.7)	8.65 (7.48-9.99)	17.1 (14.9-20.6)	41.1 (33.3-49.7)	66.7 (53.7-87.0)	2576
Total population (2007 - 2008)	8.10 (7.44-8.83)	7.49 (6.90-8.12)	14.9 (13.2-17.0)	33.3 (29.8-38.7)	50.8 (42.3-65.1)	2605
Total population (2009 - 2010)	9.28 (8.47-10.2)	8.15 (7.20-8.98)	18.0 (15.3-20.8)	44.6 (39.0-55.1)	85.6 (64.7-114)	2860
Age 6-11 years (2003 - 2004)	7.08 (5.66-8.84)	6.80 (5.90-7.70)	10.9 (8.90-14.2)	24.6 (13.8-61.8)	46.9 (17.5-178)	290
Age 6-11 years (2005 - 2006)	7.19 (5.81-8.90)	6.96 (5.32-8.88)	11.5 (9.19-16.0)	19.6 (13.1-51.5)	34.1 (19.6-58.5)	355
Age 6-11 years (2007 - 2008)	6.85 (5.98-7.83)	6.40 (5.74-7.23)	10.8 (9.75-12.3)	22.5 (16.9-34.7)	41.0 (21.1-52.8)	390
Age 6-11 years (2009 - 2010)	6.63 (5.74-7.66)	5.94 (5.14-7.19)	10.8 (9.37-12.5)	26.0 (18.2-33.4)	37.7 (27.8-65.6)	378
Age 12-19 years (2003 - 2004)	8.55 (7.34-9.97)	8.10 (6.80-9.40)	15.2 (12.2-17.8)	30.5 (23.1-40.4)	46.1 (32.9-62.5)	725
Age 12-19 years (2005 - 2006)	8.19 (6.87-9.77)	7.92 (6.37-9.50)	14.0 (11.6-18.1)	28.2 (22.9-32.9)	41.9 (32.7-48.0)	701
Age 12-19 years (2007 - 2008)	7.09 (6.17-8.14)	6.87 (5.88-7.86)	11.4 (9.41-13.7)	20.4 (16.1-26.6)	38.2 (21.6-53.3)	373
Age 12-19 years (2009 - 2010)	6.45 (5.58-7.47)	6.11 (5.26-6.89)	10.8 (8.59-13.7)	25.9 (16.2-32.9)	38.8 (27.8-55.1)	454
Age 20+ years (2003 - 2004)	8.41 (7.25-9.77)	7.90 (7.00-9.10)	17.0 (15.0-19.7)	40.5 (34.9-46.2)	66.2 (51.2-93.1)	1542
Age 20+ years (2005 - 2006)	9.76 (8.43-11.3)	9.12 (7.85-10.4)	18.9 (15.8-22.9)	44.2 (35.2-56.1)	71.4 (57.7-98.3)	1520
Age 20+ years (2007 - 2008)	8.43 (7.70-9.22)	7.94 (7.09-8.67)	16.2 (14.5-18.6)	35.2 (30.4-42.3)	59.0 (44.2-75.6)	1842
Age 20+ years (2009 - 2010)	10.2 (9.14-11.3)	8.75 (7.95-9.81)	20.4 (17.2-24.1)	52.1 (42.4-66.1)	93.1 (74.2-127)	2028
Males (2003 - 2004)	9.50 (8.34-10.8)	8.90 (7.70-9.80)	17.6 (15.2-20.1)	41.6 (32.5-52.8)	65.8 (48.7-95.4)	1281
Males (2005 - 2006)	10.1 (8.61-11.8)	8.95 (8.05-10.0)	18.3 (15.5-22.9)	40.8 (31.0-52.6)	63.7 (46.4-78.7)	1271
Males (2007 - 2008)	9.25 (8.28-10.3)	8.50 (7.37-9.53)	17.0 (14.6-19.4)	36.0 (32.1-44.2)	62.5 (44.3-84.6)	1318
Males (2009 - 2010)	10.1 (9.06-11.3)	8.80 (7.80-9.75)	20.4 (16.1-23.9)	47.4 (42.1-64.1)	89.1 (71.6-114)	1401
Females (2003 - 2004)	7.30 (6.02-8.84)	6.90 (5.90-8.30)	15.0 (11.3-19.5)	33.4 (26.5-41.7)	60.5 (40.8-77.1)	1276
Females (2005 - 2006)	8.60 (7.38-10.0)	8.18 (6.64-9.97)	15.9 (13.7-19.9)	41.5 (32.2-53.7)	72.6 (54.8-122)	1305
Females (2007 - 2008)	7.14 (6.51-7.82)	6.54 (6.09-7.14)	12.7 (11.6-14.4)	30.1 (26.0-34.0)	49.1 (40.1-57.5)	1287
Females (2009 - 2010)	8.55 (7.44-9.83)	7.63 (6.45-8.62)	15.8 (13.1-19.9)	41.5 (31.7-55.5)	81.5 (54.3-132)	1459
Mexican Americans (2003 - 2004)	9.29 (8.12-10.6)	9.20 (8.10-10.3)	16.2 (13.5-19.9)	34.4 (24.0-60.5)	68.2 (41.3-111)	618
Mexican Americans (2005 - 2006)	9.55 (8.54-10.7)	9.11 (7.99-10.3)	15.6 (14.0-17.1)	29.2 (21.4-56.8)	67.6 (41.7-81.4)	652
Mexican Americans (2007 - 2008)	8.98 (8.13-9.92)	8.84 (7.80-9.48)	15.4 (12.3-19.7)	35.2 (25.0-46.0)	53.0 (44.2-77.4)	510
Mexican Americans (2009 - 2010)	8.47 (7.30-9.84)	7.96 (6.87-9.08)	13.9 (11.3-17.7)	34.7 (25.0-53.2)	60.9 (49.3-78.7)	613
Non-Hispanic blacks (2003 - 2004)	11.6 (9.50-14.1)	10.4 (7.90-11.8)	21.5 (14.9-34.4)	43.5 (36.2-61.8)	78.0 (43.6-141)	722
Non-Hispanic blacks (2005 - 2006)	11.0 (8.60-14.0)	9.55 (6.99-13.3)	21.9 (14.9-28.9)	44.9 (31.1-71.4)	82.3 (49.2-164)	692
Non-Hispanic blacks (2007 - 2008)	10.5 (9.40-11.7)	9.21 (8.22-10.4)	18.4 (16.1-21.5)	42.4 (32.9-52.8)	65.6 (45.5-112)	585
Non-Hispanic blacks (2009 - 2010)	10.9 (9.46-12.5)	9.26 (7.70-11.4)	21.7 (17.6-24.2)	49.1 (32.2-81.7)	84.8 (51.3-174)	546
Non-Hispanic whites (2003 - 2004)	7.12 (6.13-8.27)	7.00 (6.10-7.90)	13.7 (11.3-15.8)	29.0 (22.6-35.9)	53.1 (38.4-65.6)	1074
Non-Hispanic whites (2005 - 2006)	8.66 (7.20-10.4)	8.05 (6.52-9.66)	16.3 (13.4-20.6)	40.8 (29.4-50.2)	58.5 (46.0-88.0)	1041
Non-Hispanic whites (2007 - 2008)	6.98 (6.31-7.71)	6.46 (5.93-7.29)	12.4 (11.3-14.3)	28.3 (21.6-32.6)	42.1 (32.3-50.0)	1088
Non-Hispanic whites (2009 - 2010)	8.18 (7.46-8.96)	7.24 (6.46-8.21)	14.8 (12.7-17.4)	38.9 (31.7-44.4)	66.3 (49.3-88.7)	1224

Limit of detection (LOD, see Data Analysis section) for Survey years 03-04, 05-06, 07-08 and 09-10 are 0.74, 0.74, 0.74, and 0.74 respectively.
Biomonitoring Summary: https://www.cdc.gov/biomonitoring/Arsenic_BiomonitoringSummary.html
Factsheet: https://www.cdc.gov/biomonitoring/Arsenic_FactSheet.html

The table to th left from Volume 1 shows the average ("geometric mean") arsenic levels in the US population between 2011 and 2016.

Should I get tested for chemicals?

Even if there were biomonitoring tests for chemicals we are exposed to, for most chemicals we don't know what levels cause health effects. That's why specialists often recommend AGAINST testing- they just don't know what the results mean for your health. Determining whether you should have levels in your body measured by taking a sample of blood, urine, or hair is a decision you should make with a healthcare provider, specialty-certified medical toxicologist, occupational and environmental medicine physician, or member of your regional PEHSU.

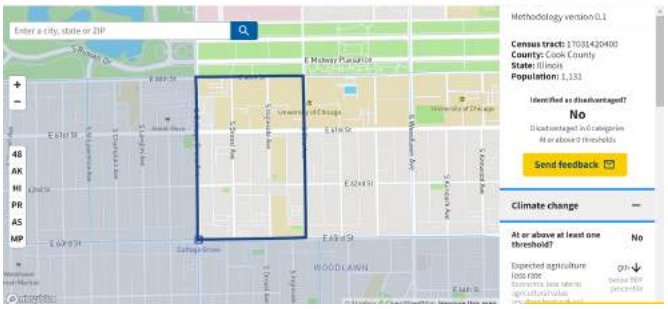
Who can I call?

The Great Lakes Center for Children's Environmental Health serves as the Region 5 PEHSU. It provides technical assistance, telephone consultations, and training from healthcare providers on environmental health issues. You can contact the Region 5 PEHSU at 866-967-7337 or email childrensenviro@uic.edu.

Environmental Justice

Climate and Economic Justice Screening Tool

The U.S. Council on Environmental Quality (CEQ) has created a mapping tool which uses public datasets to locate underserved communities with high levels of pollution. Identifying these communities helps in determining the most effective strategies to improve the environmental conditions for the residents of these areas.



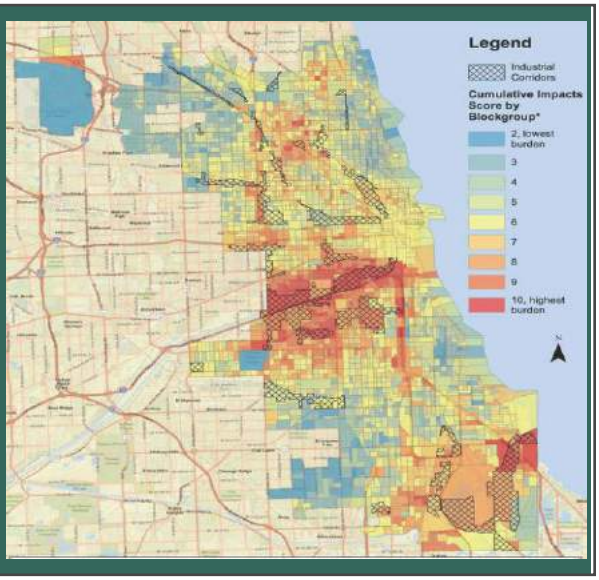
Example: Chicago, Illinois, Cook County

EJ SCREEN

EJSCREEN is an environmental justice mapping and screening tool offered by USEPA. Environmental justice (EJ) refers to efforts to protect vulnerable populations – especially racial minorities and lower-income groups – since these groups have historically had higher levels of exposure to pollution. EJSCREEN displays indicators such as percent low-income, percent minority, and individuals under age 5 as well as traffic proximity and volume, lead paint risk, and proximity to contaminated sites on the National Priorities List sites. Based on the indicators you select, an EJ index is created to highlight where vulnerable populations may be disproportionately impacted by environmental exposures. USEPA has instructional videos to help users learn about EJSCREEN's features.

Communities in Action

The Natural Resources Defense Council (NRDC) used data from USEPA's EJSCREEN to create this map (right) that looks at vulnerabilities to environmental pollution and at population characteristics in Chicago. Scores were assigned to block groups based on environmental and demographic indicators. The higher the score (highest = dark red, lowest = blue), the more vulnerable the block is to the effects of environmental pollution. Visit the Advocacy Section in this guide to learn how your community can take action and address environmental health concerns.



Agencies that address environmental health

Which government agencies have responsibility for environmental health issues? There are three levels of government agencies – federal, state, and local. Each plays a role in identifying, regulating, and cleaning up contamination.

Federal agencies

Federal agencies are typically based in Washington, DC, and they also have regional offices. The major federal environmental agency is the USEPA. Based in Washington, D.C., it has 10 regional offices located around the country. Its Region 5 office serves Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin, as well as 35 tribes and includes a children's environmental health program.

Map of Region 5.

USEPA regulates air pollution under the *Clean Air Act*, setting limits on certain air pollutants and enforcing them. It regulates water pollution under laws including the *Clean Water Act* and the *Safe Drinking Water Act*. It regulates soil (or land) pollution under laws including *Superfund*, which applies to large and very contaminated sites; the Brownfields law, which encourages cleanup of sites that are typically less contaminated than Superfund sites; and the *Resource Conservation & Recovery Act* (RCRA), focused on hazardous waste.

The ATSDR, based in Atlanta, Georgia, is a federal public health agency that is part of the U.S. Department of Health and Human Services. ATSDR investigates environmental health threats, researches health impacts of hazardous waste sites, and assists state and local government partners in addressing and mitigating environmental health issues. ATSDR's Region 5 office is located in Chicago.

State agencies

A state's public health agency and its environmental agency, which may go by various names such as state EPA or state Department of Environmental Management, usually address children's environmental health concerns, although other state agencies may also have a role. Look at your state's website to learn which agency is responsible for a particular area of environmental health. For a list of Region 5 states' public health agencies and environmental agencies, see the Appendix B. State Contacts.

State agency roles and responsibilities vary in terms of collecting data and regulating and enforcing environmental laws. For example, USEPA oversees Superfund cleanups, while states typically oversee cleanup of less contaminated Brownfield sites. Individual states or tribes may enact stronger air pollution laws than federal laws, but they cannot have weaker pollution limits than those set by USEPA.

Government Basics

Local health departments

The essential services of local health departments (LHDs) may address concerns about pollution affecting environmental health, including the second essential service on the list, "Diagnose and investigate health problems and health hazards in the community."

Local governments may have laws or policies that regulate pollution. For example, towns may have anti-idling ordinances that limit the length of time standing buses, trucks or cars can run their engines.

How to find your local health department

Some cities and towns have their own LHD. Some LHDs are at the county level of government. If your city or town has its own LHD, you will find its website online. If your city or town does not have its own or you are not sure, consult your state's department of health website. Additionally, the National Association of City & County Health Officials provides an online directory of LHDs throughout the U.S.

Local health departments (LHDs) provide 10 essential health services
1) Monitor health status to identify and solve community health problems
2) Diagnose and investigate health problems and health hazards in the community
3) Inform, educate, and empower people about health issues
4) Mobilize community partnerships and action to identify and solve health problems
5) Develop policies and plans that support individual and community health efforts
6) Enforce laws and regulations that protect health and ensure safety
7) Link people to needed personal health services and assure the provision of health care when otherwise unavailable
8) Assure competent public and personal health care workforce
9) Evaluate effectiveness, accessibility, and quality of personal and population-based health services
10) Research for new insights and innovative solutions to health problems

Communities in Action

Midewin National Tallgrass Prairie is the first national tallgrass prairie in the U.S. and is home to over 40,000 acres of protected land and a heard of American bison. Prior to this, it was on the Superfund National Priorities List. Located in Will County, Illinois, this area of land used to be the Joliet Army Ammunition Plant where, from the 1940's-1977, high explosive artillery shells, mines, bombs, and small arms ammunition were loaded, assembled, and packaged on site. As a result, the soil was contaminated with metals, mostly lead and arsenic, as well as oils and PCBs, and had two landfills on site. As part of a collaborative effort, the federal government worked with state and local governments, communities, non-governmental organizations, and the private sector to create the only federal tallgrass prairie preserve east of the Mississippi River. Visit the Advocacy Section in this guide to learn how your community can take action and address environmental health concerns.

How to bring local environmental health concerns to policymakers

A. Collect all the information you need

Freedom of Information Act

If you find that you are having difficulty accessing specific information about an environmental health issue in your community, and the government agency that possesses that information has proven unwilling to provide this information to you after you have made several requests, you may want to file a Freedom of Information Act (FOIA) request. FOIA is a federal law that helps to assure that citizens have access to information about government activities. All publicly funded institutions, including school districts, local government bodies, and state agencies, should have instructions on their websites about how to file a FOIA request.

B. Figure out who has the power to make the change

Once you have the information you need and have identified a desired outcome (closing a facility, cleaning up a contaminated area, etc.), you need to find out who has the ability to make the change that you seek.

Start with a call to your local public health or environmental agency, since they understand the local community and history, as well as the law and policy context. Describe your concern and ask about possible solutions. What do they recommend? There may be a formal mechanism that you can pursue. For example, a LHD typically responds to formal noise and odor complaints. A first step may be to make such a complaint, which may result in an inspection.

Your local health or environment department may also recommend bringing your concerns to a local board or committee. For example, a city council may have advisory boards that provide guidance in specific areas, such as environmental sustainability. Speaking at one of their meetings may be recommended as a first step.

Additional resources for understanding the problem and possible solutions include non-profit organizations that specialize in specific areas of environmental health. For example, the NRDC and the Environmental Law and Policy Center work with communities to identify ways to address pollution-related health issues. An internet search can help identify non-profit organizations that work on the issue of concern to you.

C. Advocate for change

It's time to contact the local city council, the mayor, or state legislators to advocate for change. Power mapping is a tool that can help empower your community and advocate for change. Follow the steps on the next page to draw your power map.

Power Mapping

Below are the steps for power mapping. A power map is a visual tool and should be drawn (see next page). Use Appendix C. Advocacy Worksheet as a template to get you started.

Step 1. Determine your target

Who can solve your problem?

The first step in power mapping is to determine your target- the person or organization you want to influence because they can solve the problem.

Step 2. Map the influence of your target

Who influences your target?

People and organizations in your community may influence your target. Influences may include relationships related to your target's work, family, neighborhood, politics, or religious affiliation. Think big- list possible influences even if you don't end up acting on them; they may give you ideas on other avenues of influence. For elected officials, include the major donors and constituency groups he or she has interacted with. Write these names in boxes around your target as you begin to visualize the web of connections between the people involved. In this step you want to be creative, strategic, and thorough.

Step 3: Determine relational power lines

Where are there other relationships?

Once you've mapped your target and its influences, see if there are any other relational power lines that connect not only to your target but also to each other. These connectors are called "nodes of power" within a given network. Some of these networks may connect directly to you or your group.

Step 4: Target priority relationships

Which relationships have priority?

Circle the people or organizations that have the most relational power lines. Prioritize people who will care the most about your campaign or issue and focus on these relationships when creating a plan of action. Consider looking for people or organizations that have few but critical relational power lines. You might want to find out more about this person or organization and develop a plan to find out how you can influence them. Your power map will start looking like a web at this point.

Step 5: Make a plan

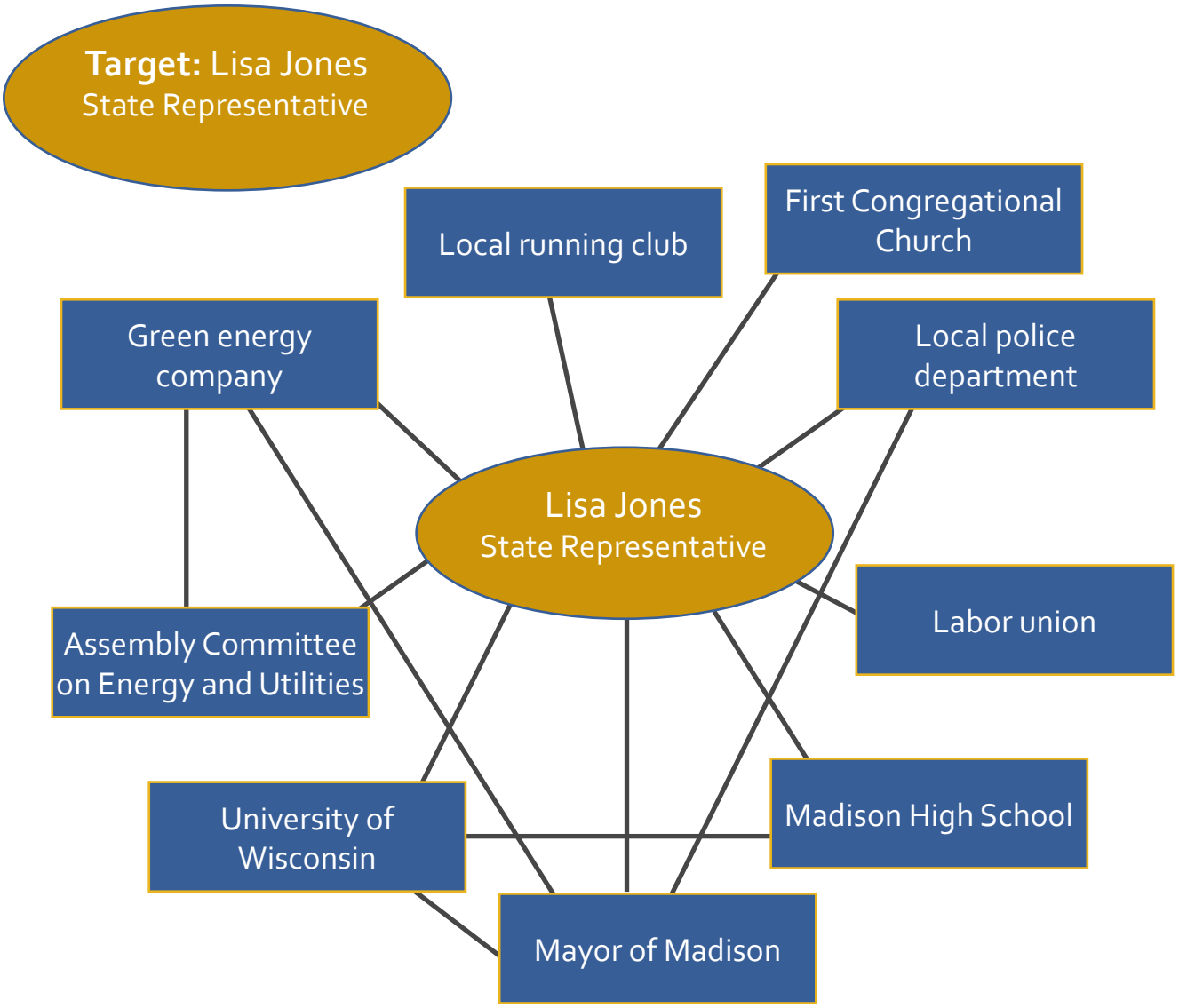
The power map itself is a first step in figuring out advocacy strategies. After the map is completed, it is used to decide how and where to take action.

The example on the next page shows what your power map should look like when completed.

Advocacy

Lisa Jones is a (fictional) state representative from a district that includes a hazardous waste facility. You would like her to propose a regulation lowering emissions from the facility. You've found that she attended the University of Wisconsin and belongs to a local running club. You also know that the mayor of Madison donated to her last campaign. On further investigation, you realize that there are several members of her church that are also in the local running club, and that the Mayor of Madison is an avid runner that also went to the University of Wisconsin. See how the web starts forming? Here are some actions you might consider:

- Contact her congregational environmental committee to see if they are aware of the emissions from the hazardous waste facility. Perhaps some of their members live near the facility and would be willing to speak to Rep. Jones.
- Does the running club run by the facility? They might be concerned about breathing in the emissions while they run, and would be able to point this out to Rep. Jones.
- You look at the University of Wisconsin's undergraduate curriculum and see that they offer a degree in environmental health. Perhaps the faculty member who teaches the course (at their alma mater) would be willing to arrange a meeting with the Mayor of Madison and Rep. Jones to inform them of the potential health hazards caused by the emissions.



Appendix A. Medical and Public Health Associations

Association	Description
Great Lakes Center for Children's Environmental Health (GLCCEH)	The PEHSU for the Great Lakes states is the at the University of Illinois at Chicago and serves as the Region 5 PEHSU for Illinois, Indiana, Ohio, Michigan, Minnesota, and Wisconsin. The GLCCEH also has a satellite clinic at the Cincinnati Children's Environmental Health and Lead Clinic.
Pediatric Environmental Health Specialty Units (PEHSUs)	The PEHSUs are an interconnected system of specialists located throughout North America who respond to questions from public health professionals, clinicians, policymakers, and the public about the impacts of environmental factors on the health of children and reproductive-age adults. Most PEHSUs can also answer questions about exposures to adults. There are 10 PEHSUs located throughout the country. The national website offers resources such as fact sheets, presentations, journal articles, and environmental health educational toolkits.
American Academy of Pediatrics (AAP)	The AAP offers information that is especially helpful to physicians such as how climate change affects children's health, lead exposure and poisoning, children's health and natural/manmade disasters. AAP also has the Council on Environmental Health which advises the AAP Board of Directors and supports legislative initiatives that protect children's health.
American College of Medical Toxicology (ACMT)	Medical toxicologists are dedicated to the evaluation and treatment of people who come in contact with drugs, substances, or other agents, such as occupational and environmental toxins, biological agents, and medications, that may cause adverse health effects.
American College of Occupational and Environmental Medicine (ACOEM)	ACOEM represents physicians and other health care professionals who specialize in the field of occupational and environmental medicine.
Association of Occupational and Environmental Clinics (AOEC)	AOEC is a non-profit organization that works to improve the practice of occupational and environmental health through information sharing and collaborative research. Their website includes a list of participating clinics.

Back to main document.

Appendix A. Medical and Public Health Associations

Association	Description
American Public Health Association (APHA)	APHA is professional organization for public health professionals with more than 25,000 members. The organization consists of numerous committees including children's environmental health, a subsection of the environmental health committee. APHA also publishes the American Journal of Public Health monthly.
Endocrine Society	The Endocrine Society is devoted to advancing hormone research, excellence in the clinical practice of endocrinology, broadening understanding of the critical role hormones play in health, and advocating on behalf of the global endocrinology community.
Environmental Defense Fund	This environmental organization has a website for searching for sources of pollution in your community – found at http://scorecard.goodguide.com/. It includes 12 health effects of pollution exposure and chemicals that are "recognized" or "suspected" in the scientific literature as being associated with that health effect.
National Environmental Education Foundation (NEEF)	NEEF provides free online courses to promote understanding about the relationships between climate, health, and the environment.
State poison control centers	Poison centers provide poison expertise and treatment advice by phone. All poison centers can be reached by calling the same telephone number, 1-800-222-1222. Poison centers are staffed by pharmacists, physicians, nurses and poison information providers who are toxicology specialists. Each provides free, 24-hour professional advice.
TEDX	For 16 years TEDX produced and shared scientific evidence of endocrine disruption with key stakeholders. Search the TEDX for endocrine disrupting chemicals up to 2019.
U.S. Centers for Disease Control and Prevention (CDC)	CDC provides health information, for example its National Biomonitoring Project.
USEPA Healthy Schools, Healthy Kids	USEPA has numerous, comprehensive resources that describe links between pollutants that can be found in schools, health impacts, and ways of creating a healthier school environment. Topics include indoor air quality, managing chemicals, and transportation.

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Appendix B. State Contacts

State	State Health Department	State Environmental Department
Illinois	Illinois Department of Public Health http://www.dph.illinois.gov/ 312-814-2793 (Chicago office) 217-782-4977 (Springfield office)	Illinois Environmental Protection Agency https://www2.illinois.gov/epa/Pages/default.aspx 217-782-3397
Indiana	Indiana State Department of Health https://www.in.gov/isdh/ 317-233-1325	Indiana Department of Environmental Management https://www.in.gov/idem/ 317-232-8603
Michigan	Michigan Department of Health and Human Services https://www.michigan.gov/som/ 517-373-3740	Michigan Department of Environmental Quality https://www.michigan.gov/deq/ 800-662-9278 (Env. Assistance Center)
Minnesota	Minnesota Department of Health http://www.health.state.mn.us/ 888-345-0823	Minnesota Pollution Control Agency https://www.pca.state.mn.us/ 651-296-6300
Ohio	Ohio Department of Health https://odh.ohio.gov/wps/portal/gov/odh/home 614-466-3543	Ohio Environmental Protection Agency https://epa.ohio.gov/ 614-644-3020
Wisconsin	Wisconsin Department of Health Services https://www.dhs.wisconsin.gov/ 608-266-1865	Environmental Management Division in the Wisconsin Department of Natural Resources https://dnr.wi.gov/about/divisions/EM/ 888-936-7463
Local Health Departments	National Association of City & County Health Officials	https://www.naccho.org/membership/lhd-directory

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Appendix C. Advocacy Worksheet

Objective:

Target person:

Action items:

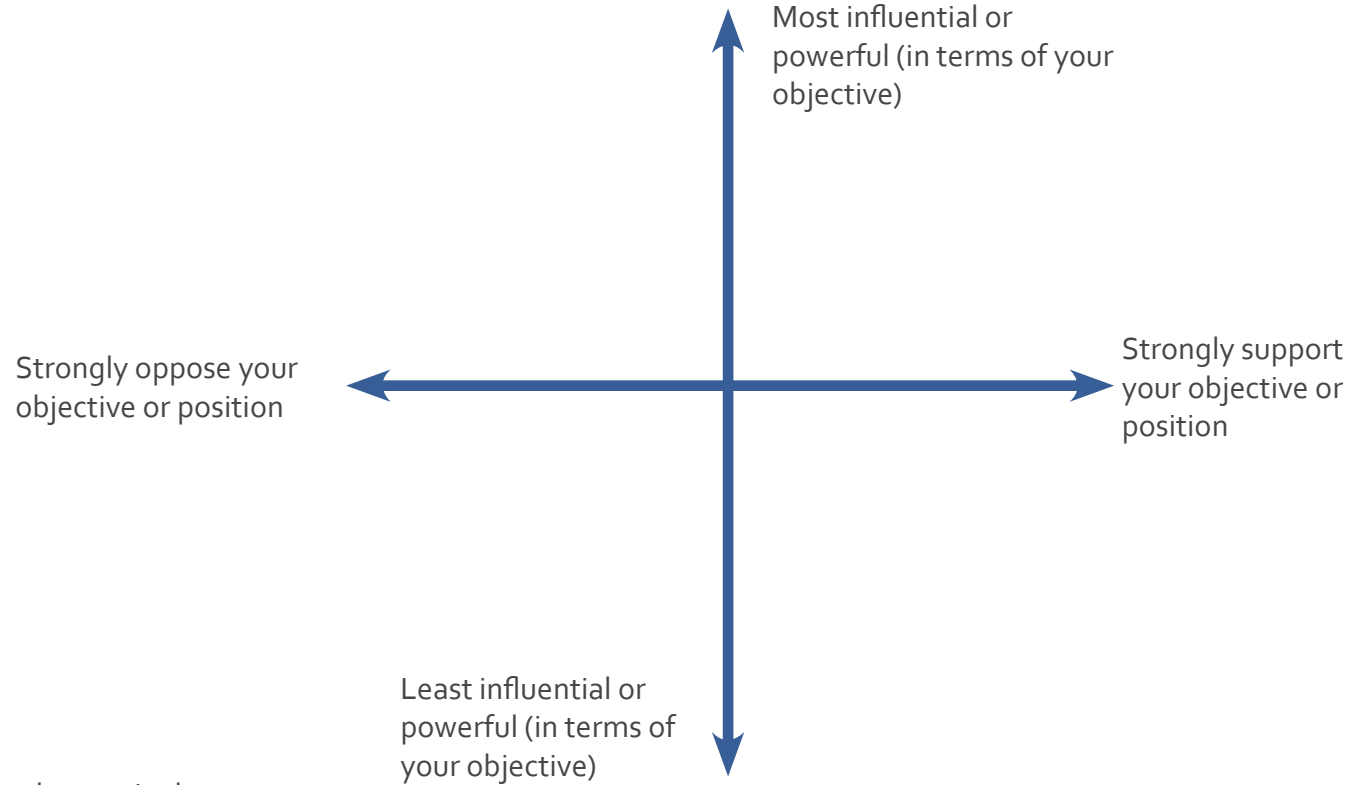
1. _____

2. _____

3. _____

4. _____

5. _____



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Resource Quick Guide

Use the tools below to investigate pollutants in your area. In addition to these on-line resources, your local health department and state environmental agency may have sources of information on pollutants.

Tool/Resource	Purpose
Multiple Pollutants	
Envirofacts	Enter your zip code or other location information to see sources of environmental exposures from multiple USEPA databases
Toxics Release Inventory	Find releases of pollutants from industries or other facilities in your area
_____	
State environmental agency	Location of local landfills and sites not addressed by USEPA
EJSCREEN	Locate areas identified as struggling with environmental justice
Air	
Air Quality Index	Discover the daily AQI for your area
National Emissions Inventory	See summaries of air pollution in your state
Air quality monitors	Find the location and results from outdoor monitors across the U.S.
Air Quality Statistics Report	Check values for air pollutants in your state or county for a particular year
Soil	
Superfund	Find out if there are Superfund contamination sites near you
Brownfields	Find Brownfields contamination sites near you
Cleanups in My Community	Access maps and lists of hazardous waste cleanup locations
RCRA	Find a list of facilities that handle, store, and dispose of hazardous substances
Underground storage tanks	Discover if there are leaking underground storage tanks in your area
Federal facilities	See if there are any federal facilities in your area that might be contaminating the soil
State environmental agency	State sites in your state not addressed by USEPA
Water	
Local water quality report	Gives information on source of drinking water and contaminants
Water Quality Watch	Find out specific water quality information for rivers and lakes
Safe Drinking Water Information System	Locate drinking water supplier and view its violations and enforcement history
State Water Quality Data	Use this EPA portal to find your state's water quality website

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