



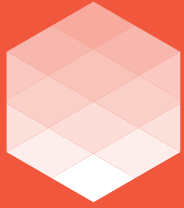
PINELLAS HIGHLIGHTS

AIR & WATER QUALITY



Foundation for a
Healthy St. Petersburg

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Healthy St. Petersburg

AIR AND WATER QUALITY AND THE EXISTENCE OF ENVIRONMENTAL TOXINS DIRECTLY IMPACT POPULATION HEALTH

When communities have high levels of lead in their water, for example, the neurological development of their children is impacted and has long term consequences, such as lower IQ score, depression, and learning disabilities. These consequences subsequently can interfere with productivity, education achievement and earning potential.

PHYSICAL ENVIRONMENT

Air & Water Quality

Air pollution is the presence of substances in the air that are either present in an environment where they do not belong or present at levels greater than they should be. These substances include various gases and tiny particles, or particulates that can harm human health and damage the environment. They may be gases, liquids, or solids. Many pollutants are given off into the air as a result of human behavior.ⁱ

Clean air and water support healthy brain and body function, growth, and development. Air pollutants such as fine particulate matter, ground-level ozone, sulfur oxides, nitrogen oxides, carbon monoxide, and greenhouse gases can harm our health and the environment. Excess nitrogen and phosphorus run-off, medicines, chemicals, lead, and pesticides in water also pose threats to well-being and quality of life.ⁱⁱ

According to the Centers for Disease Control and Prevention (CDC), 1 in 13 people have asthma. More than 26 million Americans have asthma. This is 8.3% of adults and 8.3% of children. Asthma has been increasing since the early 1980s in all age, sex and racial groups.ⁱⁱⁱ Air pollution is associated with increased asthma rates and can aggravate asthma, emphysema, chronic bronchitis, and other lung diseases. Air pollution can damage airways and lungs and increase the risk of premature death from heart or lung disease.^{iv} In Pinellas County, 6.2% of adults have asthma.^v

According to the CDC,^{vi} drinking water varies from place to place, depending on the condition of the source water from which it is drawn and the treatment it receives, but it must meet EPA regulations. Despite regulations, water contamination can still occur. There are many sources of contamination, including:

- Sewage releases
- Naturally occurring chemicals and minerals (for example, arsenic, radon, uranium)
- Local land use practices (for example, fertilizers, pesticides, livestock, concentrated feeding operations)
- Manufacturing processes (for example, heavy metals, cyanide)
- Malfunctioning on-site wastewater treatment systems (for example, septic systems)

In addition, drinking water that is not properly treated or which travels through an improperly maintained distribution system (for example, the piping system) may also create an environment for contamination.^{vii}

The presence of certain contaminants in our water can lead to health issues, including gastrointestinal illness, reproductive problems, and neurological disorders. Infants, young children, pregnant women, the elderly, and immunocompromised persons may be especially susceptible to illness.^{viii}

Drinking water is not the only water quality issue of concern in Pinellas County. In 2018 the Governor of Florida declared a state of emergency in Pinellas, and other counties in the state, over the nine-month-old Red Tide algae bloom.^{ix}

Many red tides produce toxic chemicals that can affect both marine organisms and humans. The Florida red tide organism, *K. brevis*, produces brevetoxins that can affect the central nervous system of fish and other vertebrates, causing these animals to die. Wave action can break open *K. brevis* cells and release these toxins into the air, leading to respiratory irritation. For people with severe or chronic respiratory conditions, such as emphysema or asthma, red tide can cause serious illness.^x

The Pinellas County 2017 Consumer Confidence Report^{xi} provides an analysis of the water in the county.

PHYSICAL ENVIRONMENT

COUNTY WATER ANALYSIS		
ANALYTE AND UNIT OF MEASURE	AVERAGE RESULT	RANGE OF RESULTS
Iron (ppm)	0.031	0.008- 0.122
Chloride (ppm)	26.1	19-36
Sulfate (ppm)	61.5	29-110
Total Dissolved Solids (ppm)	229	282-390
Calcium (ppm)	76.8	69.8-87.8
Magnesium (ppm)	5.90	4.57-7.11
pH (SU)	7.88	7.70-8.25
Alkalinity as CaCO3 (ppm) conc.	177	160-210
Total hardness (ppm)	216	196-249
Water softener setting for hardness: Equivalent to 11.3-14.7 grains per gallon		

Table 1: Pinellas County 2017 Consumer Confidence Report - County Water Analysis

The Florida Environmental Public Health Tracking website^{xii} and Florida CHARTS^{xiii} data highlight some statistics related to the environmental health of Pinellas County:

ENVIRONMENTAL HEALTH STATISTICS IN PINELLAS COUNTY		
STATISTIC	PINELLAS COUNTY	STATE
Population living within 500 feet of a busy roadway (2016)	13.32 %	12.14 %
Population with fluoridated water (2017)	100.0%	77.3%
Number of housing units tested for radon (2015)	230	10,074
Carbon Monoxide Poisonings (2016)	9	224
Lead Poisoning Cases (2016)	31	667
Number of asthma emergency department visits (2016)	507	15,036
Age adjusted rate of asthma hospitalizations per 10,000 (2016)	5.44	7.47
Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	6.9	7.4
Salmonellosis Single Year Rate (2016)	19.7	27.8

Table 2: Environmental Health Statistics in Pinellas County



ABOUT THE FOUNDATION FOR A HEALTHY ST. PETERSBURG

The Foundation for a Healthy St. Petersburg (FHSP) is a private foundation formed in 2013 following the sale of the nonprofit Bayfront Health St. Petersburg. It is the steward of almost \$180 million in assets to support health equity in Pinellas County. Our mission is to end differences in health due to social or structural disadvantages to improve population health. We do this by inspiring and empowering people, ideas, information exchange, organizations and relationships.

Not everyone in Pinellas County is able to attain their highest level of health and well-being. Too often, the place where a person is born, grows, lives, works, learns, or ages contains impediments stemming from entrenched social or demographic factors such as race, gender, personal attribute, income, or geography. This is unacceptable and ultimately unsustainable. The Foundation for a Healthy St. Petersburg seeks to address health disparities, advance population health, and achieve health equity in Pinellas County.

The Foundation is focused on social factors, which directly impact health outcomes, such as housing, income, education, transit, and many others as listed in the Social Determinants of Health Framework below.



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PLEASE NOTE:

This series of Pinellas Highlights is intended to illustrate the Foundation's definitions of the Social Determinants of Health framework and to provide specific data related to the Foundation's geographic focus area. The data presented is not comprehensive.

