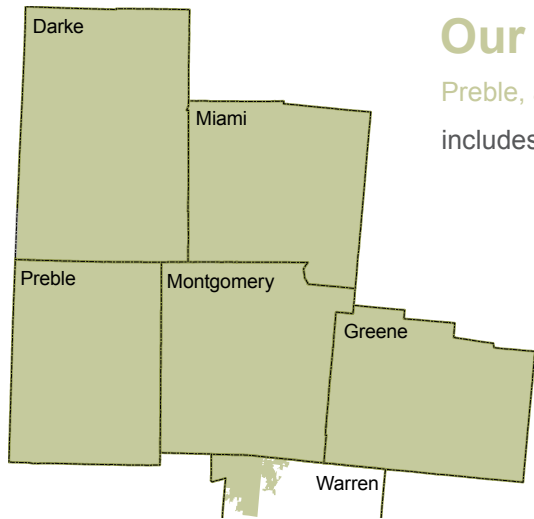




Miami Valley Environmental Quality Profile

ENVIRONMENTAL DATASET

Data for this profile comes from federal, state, and local sources, including Ohio Environmental Protection Agency (Ohio EPA), Miami Conservancy District (MCD), Regional Air Pollution Control Agency (RAPCA), Southwest Ohio Air Quality Agency (SOAQA), U.S. Environmental Protection Agency, Ohio Department of Natural Resources (ODNR), and solid waste districts in each county.



Our 5+ County Region includes Darke, Greene, Miami, Montgomery, Preble, and northern Warren. This Environmental Quality Regional Profile, however, includes all of Warren County due to data availability.

Pollution does not follow political boundaries; nature has different borders. Therefore, environmental pollution can affect not just neighbors, but people far and wide.

Agencies large and small, like the Environmental Protection Agency, Miami Conservancy District, Regional Air Pollution Control Agency, public water suppliers, and local solid waste districts, protect our natural resources and monitor their quality.



From the regional perspective, air quality is improving, but many other indicators like greenhouse gas emissions and on-site toxic waste releases are not.



water

The Miami Valley Buried Valley Aquifer provides high quality water, in large quantities. Because 96% of our population gets its drinking water from our aquifer, it is federally designated as a [Sole Source Aquifer](#). Water quality is assessed by watershed.



air

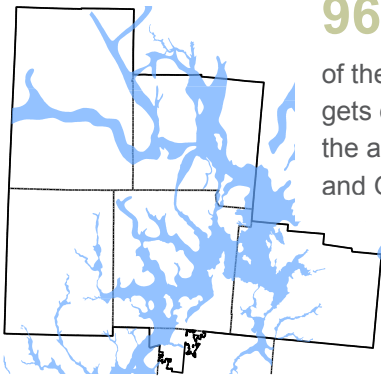
The Clean Air Act ensures monitoring for six air pollutants. If air pollution continues to be a problem, the EPA designates an area as “non-attainment.” These areas are required to create a plan for reducing air pollution. The Dayton/Springfield air quality region is currently in attainment of all applicable standards.



land

Pollutants of air and water also affect land. Pollution concerns not just humans, but other species as well. Solid waste influences land quality. All are monitored by Ohio EPA. Each of our counties has a solid waste district, which is required to submit plans to Ohio EPA.

Our Region has a wealth of water resources, and we must ensure that we protect these important assets.



96% of the Region's population gets drinking water from the aquifer—all but Piqua and Greenville

1.5 trillion gallons of water contained in the aquifer



7 watersheds, the areas of land that drain to a particular point on a stream or river

117 sub-watersheds

Source: Miami Conservancy District

Ohio EPA looks at water quality through four aspects of safety.



Safe for **aquatic life?**



Safe for **human health?**



Safe to **drink?***



Safe for **human recreation?**

Each sub-watershed is classified by three main categories:

attainment of water quality standards

impaired, for sub-watersheds that do not meet the standards

unknown or insufficient evidence

Upper Great Miami
(48 sub-watersheds)

Lower Great Miami
(35 sub-watersheds)

Little Miami Watershed
(19 sub-watersheds)



*For drinking water, Ohio EPA assesses only sub-watersheds that use surface water. Because nearly all drinking water for our Region comes from the aquifer, most of the Region's ratings are unmeasured.

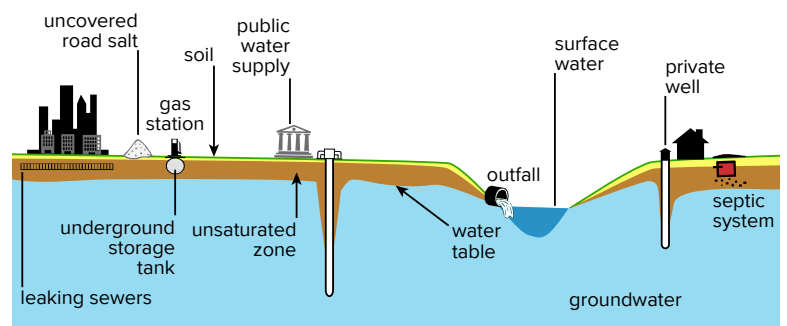
Source: 2018 Integrated Report, Ohio EPA

The Miami Valley Buried Valley Aquifer is our biggest asset and it must be protected.

The Miami Valley Buried Valley Aquifer is sensitive to pollution from a variety of sources. It is our biggest asset and our biggest vulnerability.

When we all share the same water resource, we share responsibility for keeping it safe.

Potential Sources for Contamination of our Water



Air quality in the Region is improving although greenhouse gas emissions are not.

The Clean Air Act mandates that local air quality control boards monitor for six pollutants and report its quality through the Air Quality Index (AQI) daily.

- ozone (O₃)
- particulate matter (PM_{2.5} and PM₁₀)
- carbon monoxide (CO)
- sulfur dioxide (SO₂)
- nitrogen dioxide (NO₂)
- lead (Pb)

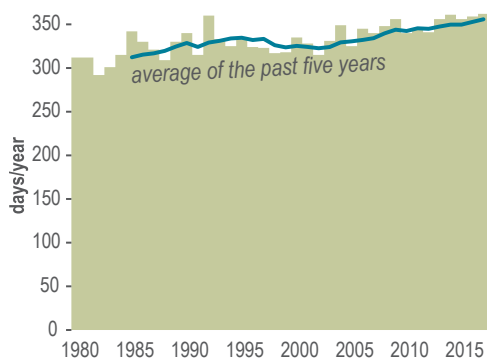
When the AQI is in this range	air quality conditions are
0-50	Good
51-100	Moderate
101-150	Unhealthy for Sensitive Groups
151-200	Unhealthy
201-300	Very Unhealthy



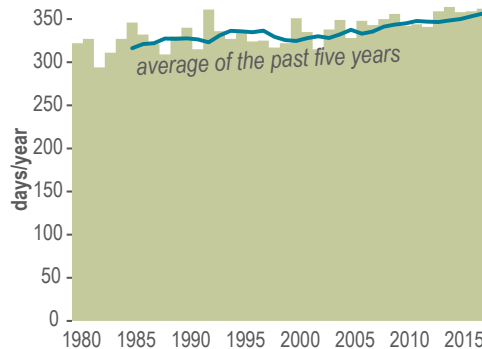
MiamiValleyAir.org provides basic air quality and air pollution information for Montgomery, Greene, Miami, and Clark Counties in Ohio. You can check air quality around the world at AirNow.gov

For the Dayton metro, the number of healthy days (AQI of 100 or less) in a year has trended upward. Ozone is our Region's primary problem, but days when ozone levels were healthy exhibit the same improving trend.

Days per year with healthy overall air quality



Days per year with healthy ozone air quality



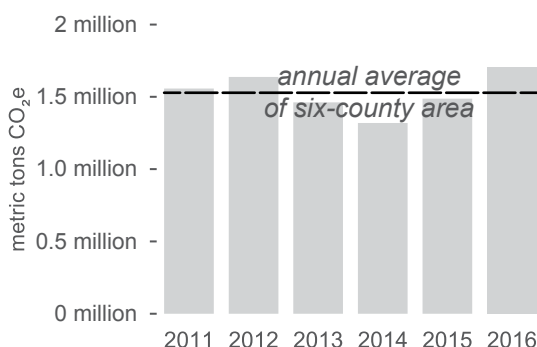
Source: U.S. EPA, RAPCA



Outside the criteria pollutants, U.S. EPA monitors other hazardous air pollutants, like mercury and asbestos. You can find the most recent data for your area on air toxics and the risks they post to health by visiting the EPA's [National Air Toxics Assessment web page](#) and [map](#).

Greenhouse gas emissions like methane and carbon dioxide contribute to climate change. These emissions are on the rise, with 2016 representing the highest level measured since 2011.

Greenhouse Gas Emissions from Large Facilities



1.5 metric tons per person for the six-county area in 2016



171 gallons of gasoline burned emit 1.5 metric tons



1.8 acres of forest in one year to sequester 1.5 metric tons

Source: U.S. EPA

There is no one measure for land quality, but we can look at different measures to indicate how the Region is doing.

Solid waste can shine a light on our land's environmental quality. Waste can go many places—landfill, recycling, compost—but over half goes to the landfill.

For every person, every day in 2016:



10.1 pounds of trash per person



5.1 pounds of it went to the landfill



5.0 pounds of it was recycled



The majority of solid waste comes from residences/commercial businesses:



60%



40%



Industry is far better than residences/commercial businesses at recycling:

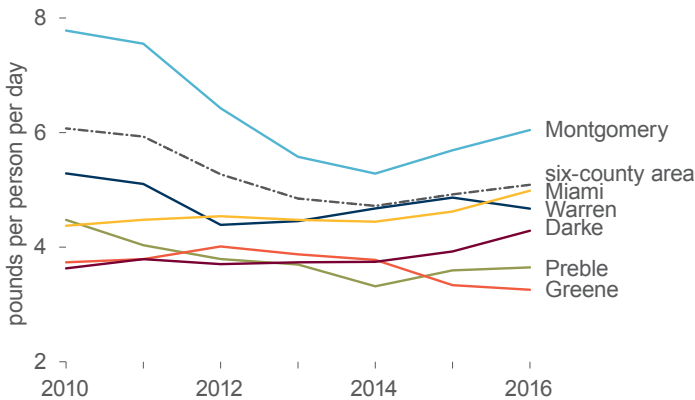


25%

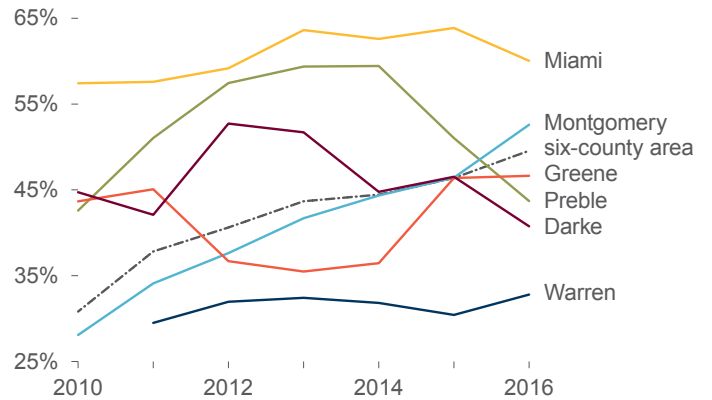


86%

Total Trash Landfilled per Person per Day

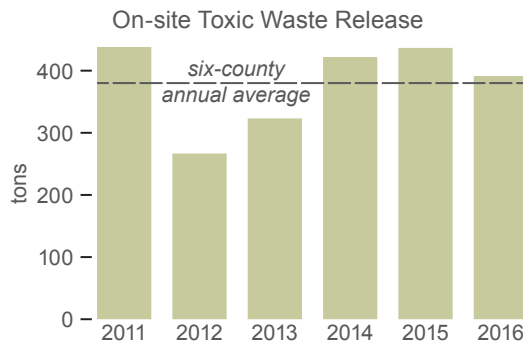


Overall Recycling Rate

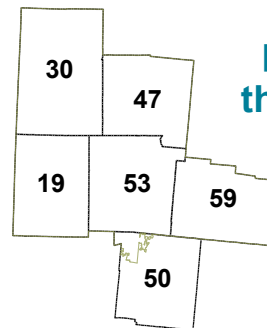


Source: Ohio EPA's Solid Waste Management Planning Annual District Reports, 2010–2016

On-site release of toxic waste in the six-county area has been growing after a dip in 2012.



Source: U.S. EPA



Every county has plants and animals that are endangered or at risk. Greene County has the largest number, with 59 species.

Source: ODNR

This profile is available at: <https://www.mvrpc.org/regional-profiles>. Contact us for your community's information.

Contact: Martin Kim, AICP, GISP, Director of Regional Planning
 Miami Valley Regional Planning Commission
 10 North Ludlow St., Suite 700 | Dayton, Ohio 45402-1855
 email: mkim@mvrpc.org
 t: 937.223.6323 | TTY/TDD: 800.750.0750
mvrpc.org