

STATE OF THE ENVIRONMENT

• BERKS COUNTY, PA •

Learn what you can do to make Berks County greener through simple, everyday choices.



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Executive Summary

Welcome to the first State of the Environment report for Berks County.

Why a report and why now? Lately the world is all about “going green”. We can hardly turn on the television or pick up the paper without hearing the latest and greatest ways to conserve energy and protect our environment. However, “going green” without any specific goals in mind will ultimately leave us wondering if our hard work and actions have truly made a difference. With the philosophy of “what gets measured, gets done” in mind, the Berks Conservancy has taken on the first comprehensive state of the environment report for Berks county. Through this report and its associated programs, the Conservancy seeks to raise awareness of conservation choices that Berks County residents and institutions can make that will improve the environment.

This report evaluates specific data and trends in five environmental categories: Air, Energy, Land, Waste, and Water. Within each category, several specific quantitative indicators are evaluated using available data, trends in the data are assessed, and specific action items that residents can practice to make each specific indicator more “positive” are identified. The five general environmental categories, as well as the specific environmental indicators evaluated, were selected by an interactive process. The Conservancy established subcommittees for each category, with each subcommittee headed by a professional with substantial experience in the specific field. These subcommittees discussed candidate indicators, and narrowed down the list of indicators to be used to 4-5 specific indicators where quantitative data were available.

While we could have selected many indicators regarding the health of the environment, our panel of experts chose the 25 contained in this report as a start. We pursued measureable, actionable data that would allow individuals, corporations and organizations to see where they could make lifestyle changes that would have increasingly positive effects on our local environment, the state, the country and the world. We used a third party consultant to research and write up the indicators and data. While we have tried to be as neutral as possible, obviously the Conservancy has a bias toward environmental conservation and protection. Rest assured, the data contained in this report is accurate and the facts will ultimately speak for themselves. We hope you learn something new, consider changing some of your behaviors as a result, and we invite you to become engaged in our work and that of other conservation and environmental organizations; the health of our community depends on it.

– Kim Murphy
President, Berks Conservancy

About the Berks Conservancy

The Berks Conservancy is a non-profit organization whose mission is to be the leading agent for the conservation of the environment in Berks County. Serving the community since 1974, the Conservancy has established partnerships with businesses, municipalities across Berks County, community leaders and its 1000+ members to help protect special places, manage sensitive environmental habitats and encourage growth in the right places. Conservancy activities include land and water protection, municipal relationships, urban gardening, environmental education, support of the agricultural community, land management, GIS mapping, trail creation, and coordination of events for our members. To date, we have permanently preserved nearly 6000 acres through conservation easements, acquisitions, and transfers. As important as these land preservation efforts are, we also realize that a healthy community needs economic growth. By using our County’s Comprehensive Plan as a guide, we continue to work with municipalities and developers to promote growth in the proper places, such as areas surrounding existing development and away from lands that have a high natural resource value. Most local residents that learn about the Berks Conservancy soon realize that it plays an important role in maintaining the unique characteristics that make Berks County a special place to live, work, and play.

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Summary of Indicators

 **THUMBS UP**
This is generally encouraging; keep up the good work!






 **THUMBS DOWN**
This is not tracking the way we want to see it; hard work to do.

 **THUMBS NEUTRAL**
We'll need to track this a while longer to see what happens.






WATER

 1. Groundwater Elevations Groundwater at Fleetwood well relatively constant; Berks could use more monitoring wells.	 2. Miles of Impaired Streams About 361 miles of Berks streams and rivers are listed by PADEP as impaired.	 3. Source Water Protection Plans Only 6 of 63 community water suppliers have water protection plans so far.	 4. Act 537 Sewage Facility Plans Most Berks County 537 plans are more than 10 years old (updating is triggered by major change).	 5. Aquatic Life in Streams Measures of stream health based on organisms in Berks County streams are mixed.
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ENERGY

 1. Vehicle Miles Traveled Per Year Berks residents travel less in vehicles than State average; but number is increasing.	 2. Use of Public Transportation Berks residents use public transportation less than average PA resident.	 3. Energy Generation & Use Berks County relies mainly on fossil fuel for energy, with few alternative sources available.	 4. Household Energy Use Many Berks residents rely on fuel oil and electric for heat; and should consider alternative and more renewable sources.	 5. "Green" Construction Berks has only a few building projects that have been LEED-registered.
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AIR

 1. Number of "Bad" Air Days Number of "bad" air days per year declining, but some standards not attained.	 2. Exceedances of Particulate Matter (PM2.5) Standard Number of "bad" and "moderate" air days per year declining.	 3. PM2.5 Attainment Weighted annual mean PM2.5 below standard for last three years.	 4. Attainment Status at Special Purpose Monitors Lead-in-air is sometimes above standard near Berks lead factories.	 5. Ambient Air Monitoring of Lead Background lead-in-air concentrations well below standard.
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WASTE

 1. Waste Generation Even with increased recycling, the percentage of waste generated in Berks is outpacing the percentage of population growth.	 2. Waste Disposal Tonnage of wastes disposed of in Berks declining slightly in recent years.	 3. Recycling Rate Recycling percentage for Berks County well over State goal of 35% for last three years.	 4. Special Waste Collections More participation and more special wastes collected as programs become known.	 5. Clean Up Our American Lands and Streams COALS cleanup program very successful.
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LAND

 1. Protected Land About 11 percent of Berks' lands are permanently protected.	 2. Tree Cover Forested lands make up the largest land-cover category in Berks County (236,014 acres or 42.6%).	 3. Impervious Cover More than 12% of the land in Berks County is classified as impervious cover.	 4. Multi-Municipal Cooperation Participation is high in joint comprehensive planning, zoning, and special planning.	 5. Outdoor Recreation Areas About 7% of Berks is classified as outdoor recreation. Connections and regional planning are necessary.
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County of Berks

- Albany Township
- Alsace Township
- Amity Township ♦
- Bally Borough
- Bechtelsville Borough
- Bern Township
- Bernville Borough
- Bethel Township ♦
- Birdsboro Borough
- Boyetown Borough
- Brecknock Township
- Caernarvon Township
- Centerport Borough
- Centre Township
- Colebrookdale Township
- Cumru Township ♦
- District Township ♦
- Douglass Township
- Earl Township
- Exeter Township ♦
- Fleetwood Borough
- Greenwich Township
- Hamburg Borough
- Heidelberg Township
- Hereford Township ♦
- Jefferson Township
- Kenhorst Borough
- Kutztown Borough ♦
- Laureldale Borough
- Leesport Borough
- Lenhartsville Borough
- Longswamp Township ♦
- Lower Alsace Township
- Lower Heidelberg Township
- Lyons Borough
- Maidencreek Township
- Marion Township
- Maxatawny Township
- Mohnton Borough
- Mount Penn Borough
- Muhlenberg Township
- New Morgan Borough
- North Heidelberg Township
- Oley Township
- Ontelaunee Township
- Penn Township
- Perry Township
- Pike Township ♦
- Reading City ♦
- Richmond Township

- Robeson Township ♦
- Robesonia Borough ♦
- Rockland Township
- Ruscombmanor Township
- Saint Lawrence Borough
- Shillington Borough
- Shoemakersville Borough
- Sinking Spring Borough
- South Heidelberg Township
- Spring Township
- Strausstown Borough
- Tilden Township ♦
- Topton Borough
- Tulpehocken Township
- Union Township ♦
- Upper Bern Township ♦
- Upper Tulpehocken Township

- Washington Township ♦
- Wernersville Borough
- West Reading Borough
- Windsor Township
- Womelsdorf Borough
- Wyomissing Borough

♦ Indicates EAC is formed and active.

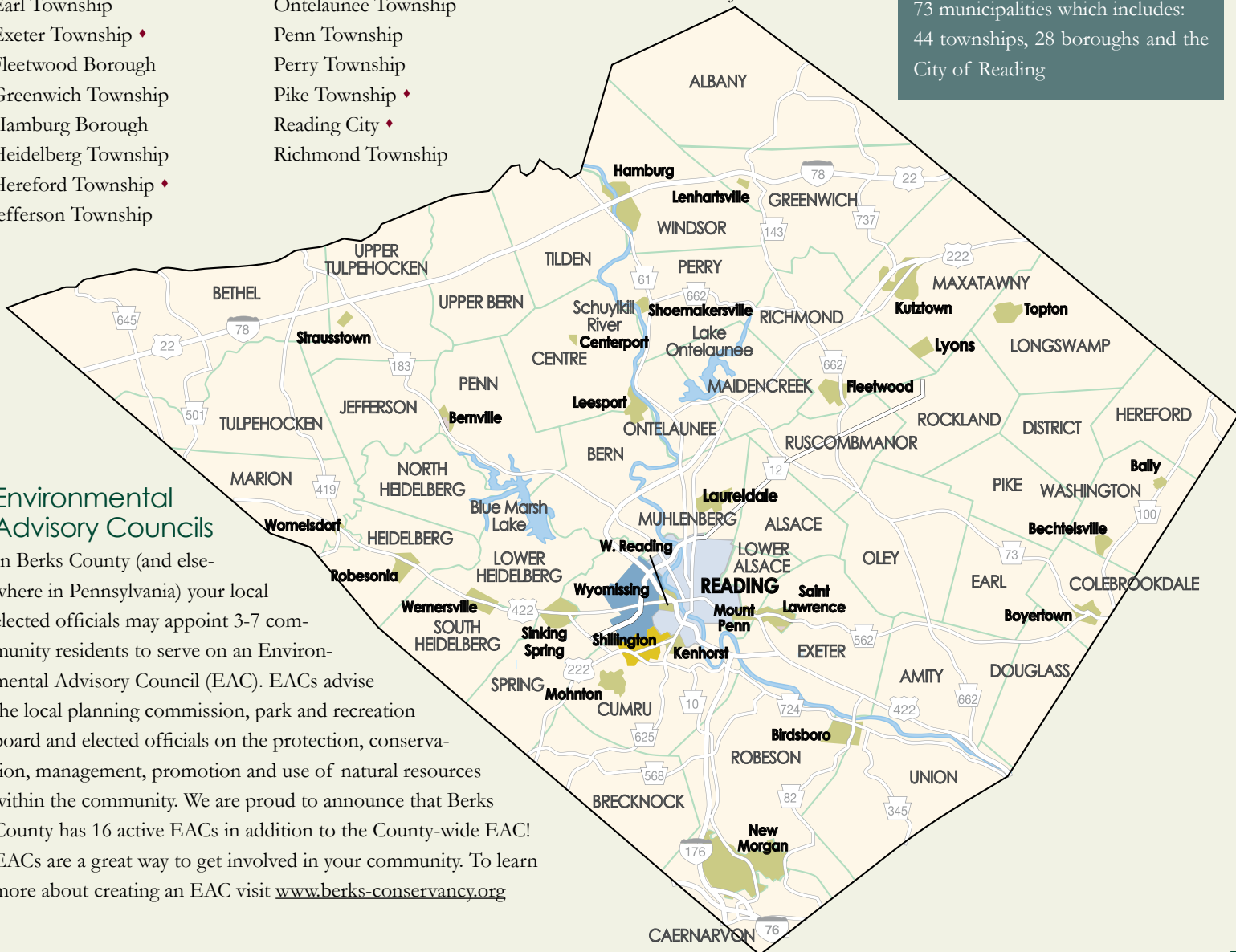
Acreage
865.30 square miles (553,792 acres)

Population
373,638 (2000 census),
grown 11% since 1990 census.
There are 127,649 households
averaging 2.56 people per
household.

Municipalities
73 municipalities which includes:
44 townships, 28 boroughs and the
City of Reading

Environmental Advisory Councils

In Berks County (and elsewhere in Pennsylvania) your local elected officials may appoint 3-7 community residents to serve on an Environmental Advisory Council (EAC). EACs advise the local planning commission, park and recreation board and elected officials on the protection, conservation, management, promotion and use of natural resources within the community. We are proud to announce that Berks County has 16 active EACs in addition to the County-wide EAC! EACs are a great way to get involved in your community. To learn more about creating an EAC visit www.berks-conservancy.org



25 Tips to Go Green

WATER

1. Save water by turning the water off when you are not using it such as brushing your teeth and washing the dishes. Check for leaks in your faucets and toilet. Install a water-saving showerhead and faucet.

2. Never dump anything into storm drains or streams. Everything that enters the storm drains ends up into streams, rivers and drinking water. Don't dump oil, trash, leaves, pet waste or any other material into the drains. Avoid pesticides and lawn chemicals that will harm aquatic life.

3. If you have well water, get your well water tested periodically. Be aware of changes in land use around you. New developments or land use practices could affect local groundwater quality and/or quantity.

4. The toilet isn't a garbage disposal. Never flush medicine, cat litter, disposable diapers, sanitary napkins, tampons, paper towels, facial tissues, coffee grounds, or cigarette butts. If you have a septic tank, perform regular maintenance.

5. Protect riparian buffers (streambank plantings). Don't mow to the edge of streambanks. Allow native vegetation to grow freely in at least a 10-foot strip along the bank to reduce erosion and filter out pollutants.



ENERGY

1. Green your commute to work or school. Start a carpool at work. Make several errands in one trip. Utilize the school bus for your children.

2. Familiarize yourself with BARTA routes and bus stop locations. Utilize bus transport for traveling around town and out of town.



3. Conserve energy. You can save significant energy and money with simple measures such as adjusting your thermostat or shutting down equipment. Unplugging appliances such as televisions, stereos, and computers while not in use can have a big impact. Use power strips for easier on/off powering to multiple electronic devices.

4. Make sure your home is energy efficient. Have your home insulated, windows caulked and check weatherstripping. Utilize residential energy use analyzers from your utility provider. Ask your electricity provider if you can purchase Renewable Energy for your home.

5. Plant trees. Trees and other plants absorb carbon dioxide and convert it into oxygen which is released into the atmosphere. Planting a tree in your neighborhood can help beautify the area while absorbing 2,000 pounds of CO₂ over its lifetime.

AIR

1. Reduce waste. Manufacturing of unnecessary or disposable goods often produces air pollution, so reduced purchasing of disposables will help.

2. Eliminate toxic chemical use at home. A surprising number of household or home shop chemicals are toxic and volatile. Many release vapors into the air, inside the home and out. This can be a serious health threat to your family, and contributes to community-wide levels of air pollutants.

3. Modify your transportation. Your car is a significant source of air pollution, so switching to a more gas-efficient vehicle will be a big help.

4. Check your home for radon levels. Radon is a cancer-causing radioactive, odorless, colorless gas, known to exist in Berks County. Testing is the only way to know your home's radon levels, and you can administer the test yourself. Test kits can be purchased at most hardware stores.



5. Talk to your legislators. Many of our current governmental regulations are not strong enough to address our air pollution problems. Citizens need to contact their legislators and ask for better policies.

WASTE

1. Compost. Composting is a natural process that breaks down organic material into a rich, organic fertilizer. By composting, you can reduce the amount of garbage you send to the landfill, grow healthier plants, and save money. It is easy to do at home.

2. Reduce waste you generate by reducing the number of disposable (i.e., throw-away) items you buy and use, and by recycling those materials that are accepted in their existing municipal or county recycling programs.



3. Recycle! Make sure you know what items can be recycled, set up containers in your house or business for storage of recyclables, and know the municipal schedule for pick-ups or drop-offs.

4. Become aware of Berks County's special waste collections - what they accept, and when and where the collection events are scheduled. Items such as tires, pharmaceuticals, and other hazardous materials are collected seasonally. Visit www.co.berks.pa.us/recycling/site/default.asp for a complete schedule.

5. Never dump garbage, rubbish, old building materials, or other solid wastes on Berks County lands.

LAND

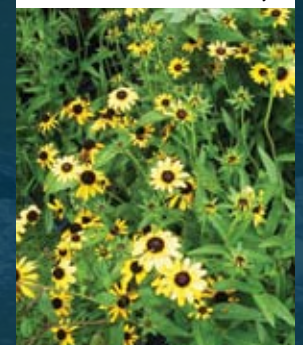
1. Utilize the open space and recreational resources that exist in Berks. Help promote these public resources and get involved/volunteer to help maintain them. This will help allow the governments and organizations that manage these resources to devote more time and energy to planning for future parks.

2. If your property includes forested areas, try to keep some or all of those areas intact; if your property lacks trees, consider planting trees where they are compatible with property use.

3. Establish a rain garden! Rain gardens are landscaped areas planted with wildflowers and other native vegetation that soak up rain water.

4. Landscape organically with native plants. Native plants are the trees, shrubs, flowers, grasses, ferns and other plants that have evolved in a particular area over thousands of years. They are well-adapted to local conditions, therefore requiring little maintenance once established.

5. Get involved in your community through an Environmental Advisory Council (EAC). EACs advise the local planning commission, park and recreation board and elected officials on the protection, conservation, management, promotion and use of natural resources in the community.



The Interrelationship of Environmental Health and Personal Health

Biologists tend to describe the natural systems they study in “levels of organization,” starting with the smallest building units and working up to the most complex systems. Thus, biologists distinguish broad categories of atoms, molecules, cells, tissues, organs, individuals, populations, communities, and ecosystems. We generally think of the individual as having a sense of self—an awareness of existence and well-being as a functioning unit.

As humans, we perceive ourselves as individuals whose survival depends on the health of our internal environment – our organ systems, our tissues, and our cells. We spend lots of time and lots of money to maintain our internal environment in fine working order. We routinely go for checkups to monitor the health of our internal environment, and ask physicians to measure indicators of our internal health (e.g., cholesterol level, blood pressure, eyesight, hearing, etc.). If we perceive that some part of our internal environment is not working properly, we promptly seek professional help to fix the faulty parts or to make our internal systems run smoothly again. We even buy special products to keep the outside of our person clean, other products to make our person smell good, and shiny things to decorate our exteriors. This concern over the health and hygiene of our personal self and internal environment seems entirely natural, appropriate, and useful, and there are probably few who would argue that such concerns are unwarranted.

In the 20th century, ecologists such as Rachel Carson, Eugene Odum, Paul Ehrlich, and Barry Commoner drew attention to our external environment, i.e., the “higher” levels of biological organization such as populations, communities, and ecosystems, and pointed out how the health of our external environment was linked to our personal health. From their studies, we can reasonably conclude that the billions we spend on our internal health (our examinations, medications, surgeries, health insurance) are ill-spent if our external environment is severely degraded. We can’t separate ourselves from our surroundings; we need to breathe the air, and drink the water, and eat the food, and raise our children in the external environment that we have changed for better or worse. It has taken a few decades for this outward focus on our external environment to become incorporated into majority public opinion, but most of us now acknowledge that our personal health, and our quality of life, is significantly affected by the condition of our external environment.

Just as doctors can make measurements of your internal environment and discuss indicators of your personal health, ecologists can make measurements of our external environment and derive indicators of the state of that environment. These measurements and indicators, followed over time, can provide an assessment of whether the quality of our environment is improving or degrading. As with medical therapies, indicators can reveal whether a particular course of treatment or environmental management is having positive benefits.

It is with this sense of the linkage between internal and external conditions that the Berks Conservancy has undertaken the task of developing a set of environmental indicators for Berks County, incorporating these indicators and the underlying data into a State of the Environment report. This is the start of an ongoing process that will continue to assess these environmental indicators over time; this 2009 report sets, in essence, a baseline for following environmental changes in Berks County. It is probable, and commendable, that readers will quibble over which data were selected for use in this report, and how the data have been interpreted; it is hoped that these critiques will be constructive, and can be used by the Berks Conservancy and others to guide the preparation of future reports.

