

# Trends in Rural Pennsylvania

November/December 2003

## About Trends in Rural Pennsylvania

This fact sheet is the sixth in a series of nine that examines trends in rural Pennsylvania. Each fact sheet focuses on a specific area of interest, and is based on the mandates outlined in the Center for Rural Pennsylvania's enabling legislation (Act 16 of 1987). The areas of interest are agriculture, economic development, local government capacity and fiscal stress indicators, transportation, socio-demographics, health care and human services, the environment and natural resources, education and the condition of existing local infrastructure. For more information on any of the data presented, contact the Center for Rural Pennsylvania.

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*The Center for Rural Pennsylvania is a bipartisan, bicameral legislative agency that serves as a resource for rural policy research within the Pennsylvania General Assembly. It was created in 1987 under Act 16, the Rural Revitalization Act, to promote and sustain the vitality of Pennsylvania's rural and small communities.*

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## The Environment and Natural Resources

Pennsylvania has a diverse environment and numerous natural resources, most of which can be found in the state's rural counties. For a closer look at these assets, the Center for Rural Pennsylvania examined a range of land cover, mineral, and environmental protection databases created and maintained by various state and federal agencies.

### Water

Although Census data show that open water, excluding Lake Erie, covers just 1 percent of Pennsylvania's total area, the lakes and streams in the Commonwealth play an important part in rural life. The Commonwealth's extensive network of more than 80,000 miles of streams divides the state into 104 watersheds. About 375 groups have formally organized to protect and promote the environmental sustainability of these watersheds.

Pennsylvania's water resources provide water not only for drinking and washing, but also for various recreational opportunities such as fishing and boating. Such activities are popular for both residents and tourists. According to 2002 Fish and Boat Commission statistics, more than 9,000 boats in Pennsylvania were registered to people living out-of-state. There were nearly 150,000 boats registered in rural Pennsylvania, which account for more than 40 percent of total registrations in the state and represent a 20 percent increase from the 1992 rural figure. Fishing is practiced by 14 percent of all residents in Pennsylvania's rural counties - nearly 480,000 rural residents purchased fishing licenses in 2002. Rural anglers are 52 percent of the state's total and their numbers grew by 9 percent from 1996 to 2002.

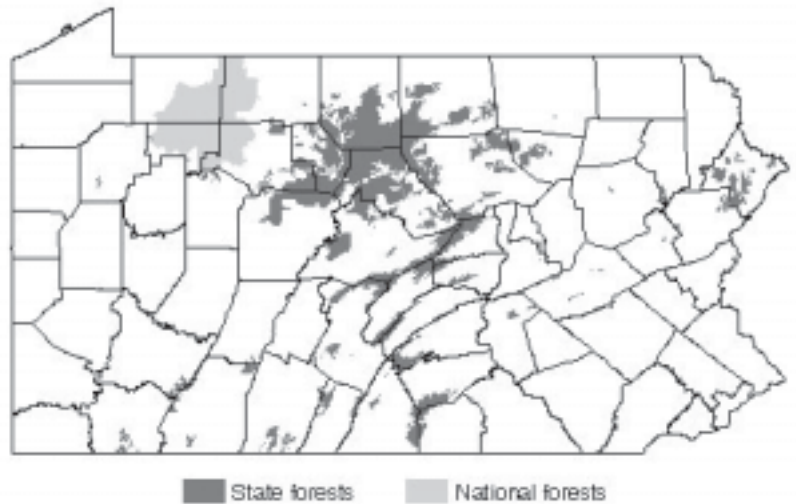
With such a quantity of water, flooding can often occur. About 93 percent of the state's municipalities and 94 percent of the rural municipalities are in the National Flood Insurance Program, indicating that much of the state is under threat of too much water at times. The Pennsylvania Department of Environmental Protection (DEP) is working to remedy the approximately 5 percent of the 950 high hazard dams in the state that are currently unsafe. High hazard dams are those that could cause significant loss of life or property should they fail.



Watershed management also includes wetlands. DEP notes that “Wetlands and their importance are now recognized for their many contributions to enhancing water quality, providing valuable wildlife habitat and contributing to public safety and welfare.” According to the U.S. Fish and Wildlife Service’s National Wetlands Inventory, Pennsylvania lost an estimated 28,000 acres of wetlands from 1956 to 1979 but gained 4,683 acres of wetlands just within the Chesapeake Bay watershed between 1982 and 1989. Between 1990 and 2003, Pennsylvania gained almost 4,000 more acres. Currently, more than 400,000 acres of wetlands are found throughout the Commonwealth.

Sewage or wastewater is another environmental issue regarding water. Some data on this topic will appear in the next *Trends* fact sheet, which deals with infrastructure.

### Pennsylvania’s State and National Forests



### Forests, Parks, and Wildlife

According to the U.S. Geological Survey, deciduous, evergreen, and mixed forests covered 65 percent of Pennsylvania’s total land area in 1992.<sup>1</sup> The state- and federal government-owned portions, about 13 percent of the total, are shown on the map above. This ownership and the regulations it entails help to ensure that the forests are maintained as recreational and economic resources for current and future use.

Seventy-one percent of the land area in Pennsylvania’s rural counties is forested, which amounts to five forested acres in every seven.

According to the Census Bureau’s County Business Patterns, forestry and logging employed more than 1,000 rural Pennsylvanians and were the work of about 340 business establishments in 2001. Ten years earlier in 1991, the industry’s 275 rural establishments employed about 1,300 people.<sup>2</sup>

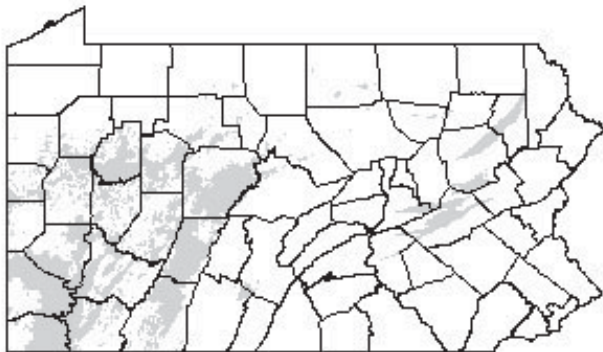
Wildfires are not uncommon in Pennsylvania forests. In

1996 through 2001, nearly 5,400 wildfires burned more than 32,000 acres of Pennsylvania forest for an average of about 900 fires and 5,366 acres lost per year, or 2.5 fires and 15 acres each day. The causes of these fires range from campfires to equipment use to smoking. Thirty-five percent of the total fires were started with malicious intent and another 25 percent were attributed to debris burning.

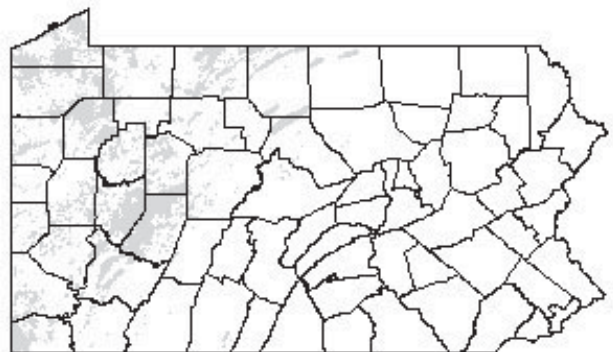
Most wildfires, 70 percent of the total, occur in rural counties, but fires in both rural and urban counties burn about the same average amount of land.

The state has established more than 100 state parks in the Commonwealth so that visitors can take advantage of the natural beauty of the state’s environmental resources such as water and forests. In 2002, the parks were used by nearly 36 million visitors. Parks in rural and urban counties each attract approximately the same number of visitors, although rural parks account for 75 percent of state park land. Over the past 10 years, the overall number of visitors has increased with

### Coal Mining Areas



### Oil and Gas Fields



<sup>1</sup> An updated survey is to be released in 2004.

<sup>2</sup> Between these two years, data collection was changed from SIC to NAICS industry classifications. This affects comparability to some extent.

rural numbers falling slightly and urban numbers rising.

Pennsylvania's forests, streams, and other natural habitats are home to many species of plants and animals. A great number of species are considered by the state to be biota of special concern, which means that they are classified as endangered, threatened, or rare. These include about 650 plant species, about 175 vertebrates, and nearly 300 invertebrates.

## Energy Resources

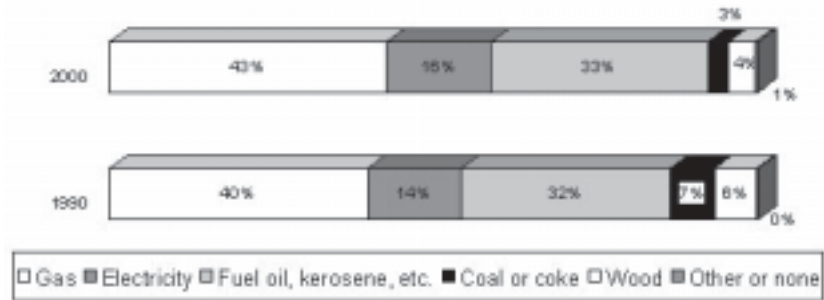
Pennsylvania is among the top five states for production of coal and is home to nearly all of the anthracite (hard) coal reserves in the United States. Anthracite is found primarily in the northeast portion of the state and bituminous (soft) coal in the southwest. (See map on page 2.) In the early 20<sup>th</sup> Century, Pennsylvania coal production accounted for nearly two-thirds of the United States total, and it still accounts for nearly one-tenth.

DEP data for 2001 show nearly 450 operating coal mines, 95 percent of which are located in rural counties. Non-coal mines, those that produce other industrial minerals such as limestone or clay, number over 1,000 in the Commonwealth and are about 75 percent rural.

Once mining is concluded at a site, the mined area is to be returned to its original use. In 2002, this reclamation was completed for 5,700 acres of coal mines and 10 acres of non-coal mines and was partially completed for more than 7,000 acres of mine land. Between 1999 and September 2003, 1,843 coal and 541 industrial mineral mining sites in rural Pennsylvania were reclaimed. In addition to the returning of sites to their natural state after mining is concluded, there is the issue of the reclamation of abandoned mine lands - almost 14,500 acres of rural abandoned mine land has been reclaimed through October 2003.

Such quantities of coal mining have led to problems with acid mine drainage (AMD). According to DEP, 3,129 miles of Pennsylvania streams showed signs of AMD impact in 2002. These figures are not available by rural and urban

## Home Heating Fuels in Rural Pennsylvania, 1990-2000



counties and cannot be compared to those from five or 10 years earlier.

The Commonwealth also contains and produces large quantities of oil and natural gas, particularly in the northwest. (See map on page 2.) In fact, Titusville, Crawford County, is the site of the first oil well in the country. While many sources of energy exist, the traditional fossil fuels are still used the most. According to the Public Utility Commission, the energy resources used to produce electricity in 2001 in our region, which includes most of Pennsylvania but also all or part of six

nearby states and the District of Columbia, are distributed as shown in the box below left.

One use of energy resources is home heating. More than three-quarters of rural Pennsylvania households heat with gas or fuel oil. Use of coal, coke, and wood decreased by 40 percent between 1990 and 2000.

Although it has decreased over time, the mining industry, which includes oil and gas extraction, remains important to the rural economy. Mining employed more than 10,000 rural residents in about 650 establishments in 2001. Ten years earlier in 1991, mining's 850 rural establishments employed more than 19,000.<sup>3</sup>

## Sources Used to Produce Electricity in PA

<b>Fossil fuels</b>	
Coal	43%
Oil	4%
Natural gas	9%
Subtotal:	56%
<b>Renewable sources*</b>	
Waste	<1%
Water	<1%
Wood	<1%
Subtotal:	2%
<b>Other</b>	
Nuclear	42%
<b>Total</b>	<b>100%</b>

\*Wind is used in extremely small amounts, while solar and geothermal sources are recorded as 0.0.

## Waste and Recycling

Rural Pennsylvania produced .87 tons of trash per person in 2001 for a total of nearly 3 million tons. This was a sizable increase from 10 years earlier when .55 tons were generated per rural Pennsylvanian.

As of October 2003, the improper disposal of hazardous waste has led to the designation of 574 Superfund sites around the Commonwealth, about 20 percent of which are in rural counties. A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment. In Pennsylvania, 118 such sites have

<sup>3</sup> Between these two years, data collection was changed from SIC to NAICS industry classifications. This affects comparability to some extent.

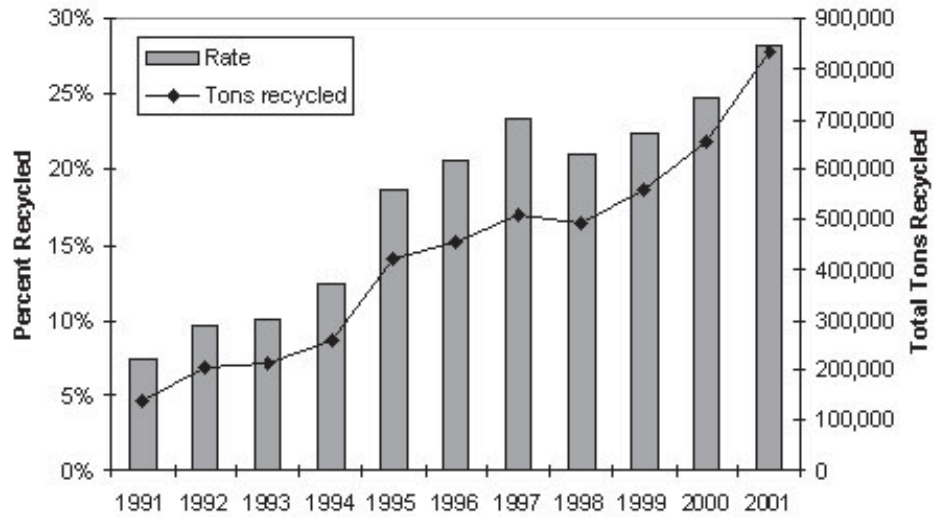
been on the National Priorities List (NPL) of the worst hazardous waste sites that have been identified by Superfund. Thirty-two of these sites are located in rural counties, six of which have been deleted and two more partially deleted from the NPL as a result of being cleaned up.

A critical link in conserving and preserving natural resources is recycling products made with them. While there is no available rural data for this industry, in Pennsylvania as a whole there are 3,247 recycling and reuse establishments, which employ 81,322 people. This includes those involved in collection and processing, recycling manufacturing, and reuse and remanufacturing.

Rural counties recycle at a lower rate than urban counties. This is due in part to fewer municipal recycling programs in rural areas. For example, in DEP's Southcentral region, 14 percent of municipalities in rural counties have a curbside recycling program compared to 50 percent of those in urban counties. About one-quarter of all municipalities in the region have recycling drop-off sites available to residents. Rural Pennsylvania recycled 28 percent of its nearly 3 million tons of municipal solid waste in 2001. Meanwhile, urban areas recycled 37 percent of their almost 8 million tons. At the same time, rural recycling is growing rapidly both in total tons recycled and in terms of rate per ton of trash generated. (See chart above.)

Waste is not the only product that can be recycled. DEP's Land Recycling Program encourages the recycling and redevelopment of old industrial sites, often called "brownfields." Since the program's inception in 1995, more than 1,300 sites have been recycled, 449 of these in rural counties. The program is gaining momentum as more sites are cleaned up for reuse each fiscal year. According to DEP, this strategy of encouraging the redevelopment of sites with existing roads, sewers, water lines

### Recycling Trends in Rural Pennsylvania, 1991-2001



and utilities is often more cost-efficient than providing this infrastructure at pristine sites. The strategy also helps to protect prime farmland, forests and open areas from development. Farmland preservation programs are another way to keep natural agricultural resources for future generations. This topic will be addressed in a future *Trends* fact sheet on agriculture.

There are certainly other important components in the environmental picture, such as air quality, but as there was either no readily available data or as rural and urban data was not available on these topics, they were not included in this fact sheet.

#### Definitions

**Rural** - Counties whose population density, according to the 2000 Census, is less than the statewide density of 274 persons per square mile.

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