



DELAWARE COUNTY RETURN ON ENVIRONMENT

EXECUTIVE SUMMARY

Delaware County is home to diverse landscapes and people, containing urban, suburban and rural areas and people of all ages, races and cultures.

The benefits presented in this report provide information for elected leaders, policy makers, and the general public on the value of protected open space. Hopefully, this information will contribute to informed decision-making concerning both preservation and development in the county.

The Key Benefits of Protected Open Space



ECONOMIC ACTIVITY IMPACT

\$52M

annual economic impact associated with protected open space

590 Jobs

supported from open space-related upkeep and open space tourism

\$20M

in annual salaries



ENVIRONMENTAL SERVICES BENEFITS

\$14.1M

annually through the provision of six environmental services

\$39.0M

lifetime cost savings from carbon storage in trees

\$6.2M

avoided annual stormwater system maintenance

\$74.4M

avoided annual stormwater pollutant removal costs



DIRECT USE BENEFITS

\$142.6M

annual recreation benefits to residents

\$153.4M

medical costs avoided annually

\$134.5M

lost productivity costs avoided annually



HOME AND PROPERTY VALUE IMPACT

\$689M

added to the value of housing stock located within a 1/2 mile from protected open space

\$4,500

average increase of the value of homes located within a 1/2 mile from protected open space

\$160M

annual additional property tax revenues generated from homes within a 1/2 mile of open space

The Return on Environment project describes, measures, and provides illustrative examples for estimating the economic value of benefits associated with protected open space in Delaware County. Protected open and green space are used interchangeably in this report and includes open, largely undeveloped natural areas such as woodlands, stream and river corridors, parks, trails, and other natural areas in the County. Trails are an important part of the greenspace network as they help connect open spaces, communities, and people to nature. This study measures the economic benefits of both public and private permanently protected green space lands in Delaware County.

Based on the methodologies from a previous Return on Environment report completed in 2011 by the Greenspace Alliance and the Delaware Valley Regional Planning Commission (DVRPC)—that assessed the economic benefits of protected open space in the five-county region of Southeastern Pennsylvania—this current Return on Environment Study seeks to quantify the economic value of protected open space specific to Delaware County. This economic analysis is critical to understanding the true value and impact of the policies and initiatives that support open space preservation.

Economic Activity Impact

Open space generates jobs and attract people to spend in the region

Protected open space in Delaware County generates economic impacts by creating management and maintenance expenditures and related jobs at public parks. The direct spending, which goes to labor income, is circulated back into an economy when those employees spend some of their earnings on various goods and services, creating a ripple effect in the economy. Beyond management and maintenance, open space attract tourists to visit the county, who, in turn, generate associated expenditures within the county.

▷ **\$52 MILLION IN TOTAL ANNUAL ECONOMIC IMPACT**

It is estimated that open space-related activities generate an estimated total of \$52 million in annual economic impact. Examples of these economic activities include spending from tourism associated with protected open space, and government spending for the management and maintenance of public open space.

▷ **590 JOBS SUPPORTED FROM OPEN SPACE-RELATED UPKEEP AND OPEN SPACE TOURISM**

Protected open space in Delaware County contributes an estimated 590 direct and indirect jobs to the economy. Examples of these jobs include public maintenance workers, municipal, county, and state park administrators, and rangers; and guides and hospitality professionals catering to tourists who visit protected open space.

▷ **\$20 MILLION IN ANNUAL SALARIES**

Salaries paid to individuals working on or in positions related to protected open space in Delaware County total \$20 million per year.

Environmental Services Benefits

Open space reduces pollution and stormwater risks

Protected open space in Delaware County provides environmental benefits for the communities it serves, including air pollution removal, the provision of a water supply, water quality improvement, flood mitigation, wildlife habitat conservation, and carbon sequestration and storage. Combined, these benefits create ecosystem functions that would require costly measures to replicate, if lost. The upkeep of the protected open space will ensure the value of these services, if the ecosystems are retained. If these ecosystems were removed, municipalities would incur additional costs to provide equivalent services.

▷ **\$14.1 MILLION ANNUALLY THROUGH THE PROVISION OF SIX ENVIRONMENTAL SERVICES**

The six environmental services include replenishment of the water supply, water quality improvement, flood mitigation, wildlife habitat conservation, air pollution removal, and carbon sequestration in trees on protected open space. This sum represents value gained and costs avoided by eliminating the need to sacrifice or artificially replace vital ecological services currently provided by protected open space within Delaware County.

▷ **\$39.0 MILLION IN THE LIFETIME COST SAVINGS OF CARBON STORAGE IN TREES**

It is estimated that trees on Delaware County's protected open space store a tremendous amount of carbon, a benefit that would cost \$39.0 million to replicate.

▷ **\$46.5 MILLION IN AVOIDED TOTAL CAPITAL COSTS, \$6.2 MILLION IN AVOIDED ANNUAL STORMWATER SYSTEM MAINTENANCE AND OPERATIONS**

▷ **\$74.4 MILLION IN AVOIDED ANNUAL STORMWATER POLLUTANT REMOVAL COSTS**

An increase in runoff and pollutant loads would require additional investment in infrastructure to manage the increased stormwater. Protected open space in Delaware County avoids \$46.5 million of capital cost for stormwater infrastructure construction, plus an additional \$6.2 million in

annual operations and maintenance costs, and an additional annual investment of \$74.4 million needed to remove stormwater pollutant loadings.

Protected open space helps mitigate stormwater impacts by reducing the volume of runoff created by storm events and the associated pollutants that stormwater carries. This mitigation reduces the burden placed on community stormwater infrastructure to manage the volume of runoff and pollutant loads, thereby avoiding both capital and long-term community maintenance expenditures, as well as improving ecological habitat, recreational resources, and safeguarding sources of current and future public water supplies.



Naylors Run Park
Photo credit: Sahar Coston-Hardy



Direct Use Benefits

Open space provides free or low-cost recreational opportunities and promotes health

Protected open space in Delaware County provides a multitude of free or low-cost recreational activities to residents. Many of these activities involve strenuous or moderate exercise, which contribute to physical well-being and defray health-care costs. In addition to physically active residents who derive benefits from protected open space, employers realize lower healthcare costs, see fewer workers compensation claims, and have lower rates of absenteeism and presenteeism (i.e., going to work while sick or injured and being less productive).

▷ **\$142.6 MILLION IN ANNUAL RECREATION BENEFITS FOR RESIDENTS**

\$142.6 million in benefits accrue annually to residents who participate in recreational activities on protected open space within Delaware County. This value represents the additional amount of money that residents in the county would be willing to spend in the private market, to participate in the recreational activities, which they currently enjoy on protected open space.

▷ **\$153.4 MILLION IN MEDICAL COSTS AVOIDED ANNUALLY**

Physically active people typically enjoy a variety of health benefits, including lower incidence of cardiovascular disease, diabetes, depression, certain cancers, and obesity. It is estimated that the moderate and strenuous activities that take place on protected open space in the county account for \$153.4 million in avoided medical costs annually.

▷ **\$134.5 MILLION IN LOST PRODUCTIVITY COSTS AVOIDED ANNUALLY**

It is estimated that businesses in Delaware County avoid \$134.5 million in lost productivity costs per year as a result of the physical activities their employees engage in on protected open space in the region. This total represents the amount saved due to less employee absenteeism and presenteeism due to employees engaging in physical activity on protected open space in Delaware County.



Home and Property Value Impact

Open space generates premium for home values

The property value impact from protected open space is reflected in the home value premium that homeowners are willing to pay to live near protected open space. As a result, the existing protected open space in Delaware County adds to the overall value of its housing stock. This increased wealth is captured through higher sales values of homes near protected open space and generates increased government revenues via greater property tax collections. This report analyzes more than 14,000 acres of protected open space and approximately 101,208 single family home sales in Delaware County from 2000-2020 to estimate the effect of protected open space on residential property values and the attendant fiscal impacts. Results indicate that proximity to protected open space contributes a significant positive impact to residential property values.

▷ **\$689 MILLION ADDED TO THE MARKET VALUE OF HOUSING STOCK**

There is an average increase more than \$4,500 in the value of homes in Delaware County that are located up to a ½ mile from protected open space. In total, the approximately 101,000 homes within a ½ mile of protected open space have an added value of \$689 million in market value, due to their proximity to open space.

▷ **\$160 MILLION IN ANNUAL PROPERTY TAX REVENUES**

Protected open space also increases the amount of property taxes that local governments and school districts receive. These increased property tax revenues total \$160 million per year.