

# The Economic Value of Preserved Open Space

## Mercer County, New Jersey

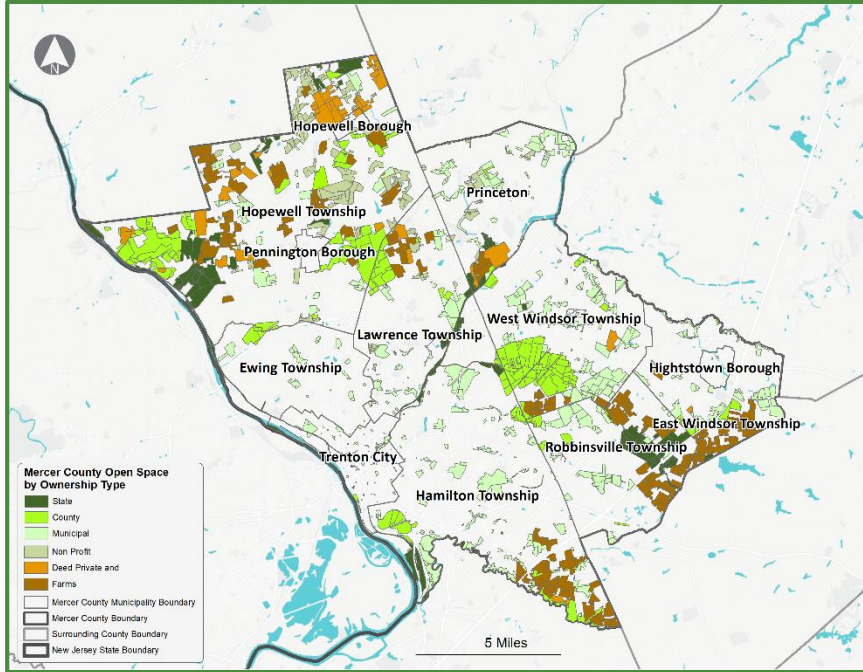


Prepared by

**ESI** ECONCONSULT  
SOLUTIONS INC.

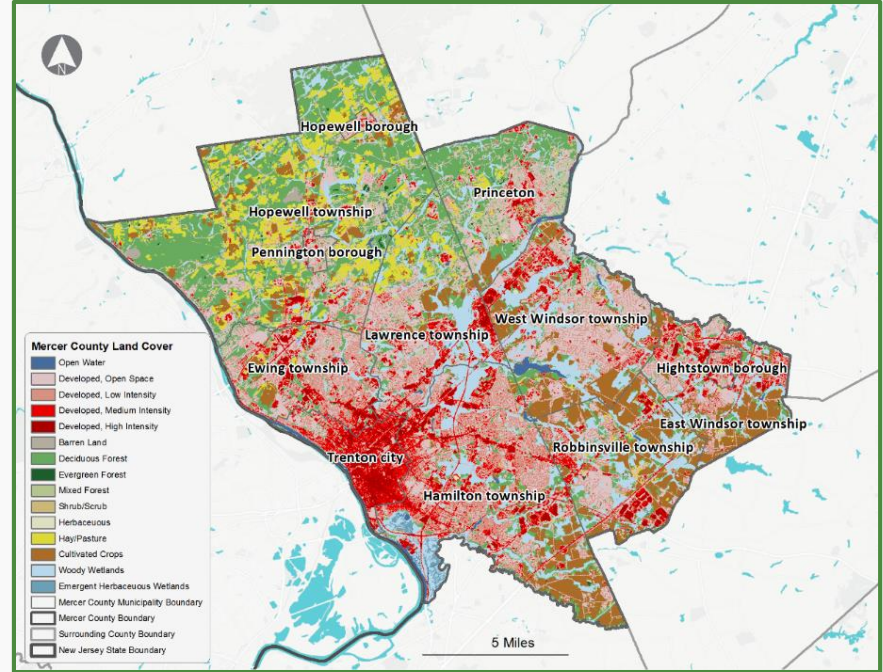
# Mercer County Open Space and Land Cover

## Open Space



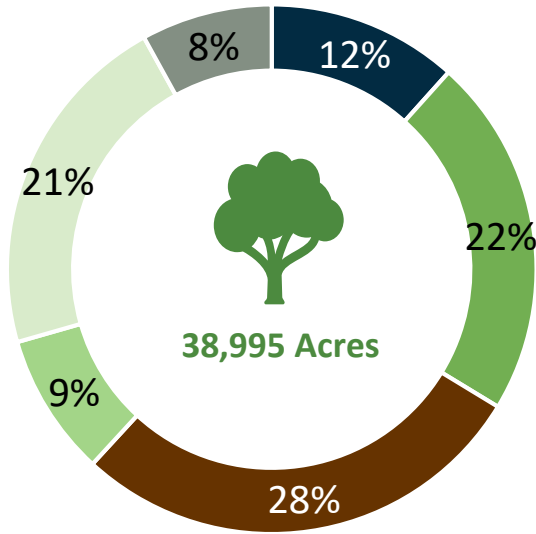
Source: Mercer County Open Space (2020)

## Land Cover



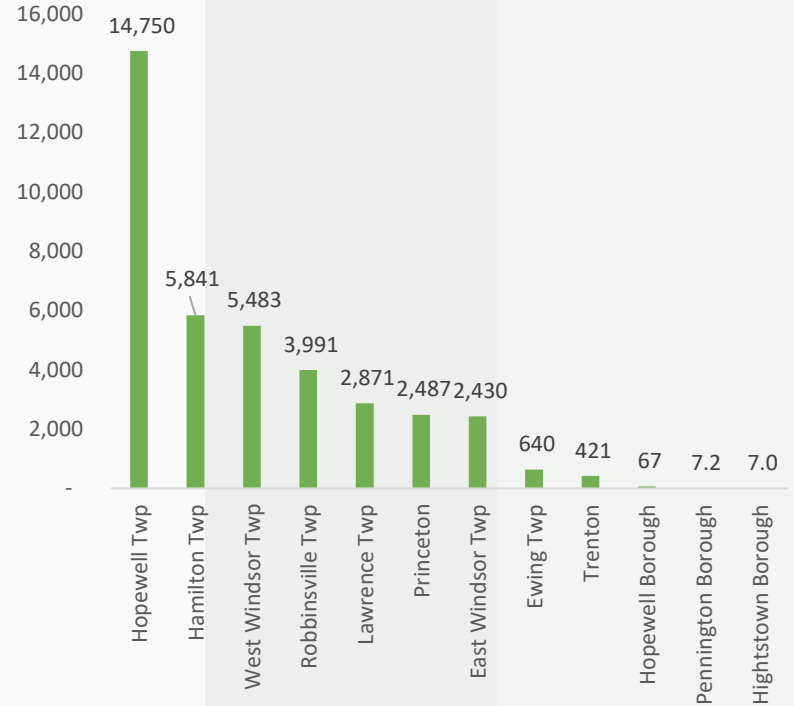
Source: Multi-Resolution Characteristics Consortium Land Cover (2019)

# A total of 38,995 acres of protected open space in Mercer County



- State
- County
- Municipal
- Nonprofit
- Protected Farms
- Conservation and Deed Restricted

Area of Protected Open Space by Municipality



Source: Mercer County Open Space (2020)

# Return on Environment

## Open Space Adds Economic Value in Four Ways



Home and Property Values



Economic Activity



Environmental Services



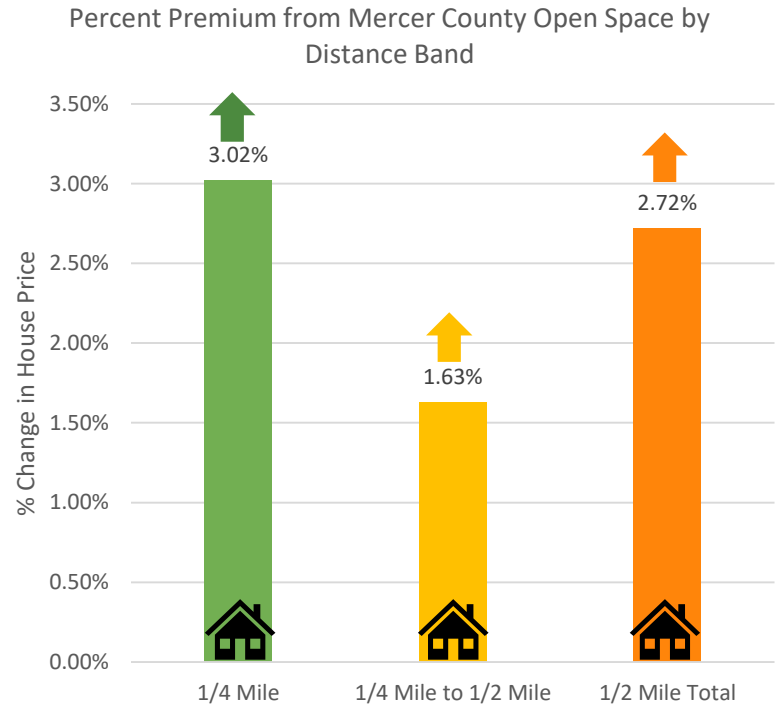
Direct Use Benefits  
Health & Recreation



# Home and Property Values

# Total Open Space Impacts within ¼ mile and ½ Mile Distance Band

	1/4 Mile	1/4 Mile – 1/2 Mile	1/2 Mile Total
Total Number of Houses	87,776	22,726	110,502
Total Assessment Value (\$M)	\$22,837	\$6,219	29,056
Total \$ Value of Open Space (Assessed Value, \$M)	\$690	\$101	\$791
Total % Value of Open Space	3.02%	1.63%	2.72%
Total \$Value/Housing Unit (Assessed Value)	\$7,857	\$4,448	\$7,156
Total Property Tax Value (\$M)	\$19	\$3	\$21
Total Property Tax/Housing Unit	\$214	\$119	\$194





# Case Study: Mercer Meadows



## Total Property Impact within ½ Mile from Mercer Meadows

	<u>1/2 Mile Total</u>
Total Number of Houses within 1/2 Mile	839
Total Assessment Value	\$396,161,600
Total \$ Value of Open Space	\$59,958,387
Total % Value of Open Space	15.1%
Total \$Value/Housing Unit (market value)	\$71,464
Total Tax Value	\$1,622,118
Total Tax/Housing Unit	\$1,933

# Case Study: Mercer Meadows



## \$0.2M in total annual Air Pollution Removal Benefits

- Ozone: \$142,750
- Particulate Matter-10: \$3,950
- Nitrogen Dioxide: \$13,350
- Sulfur Dioxide: \$1,700
- Carbon Monoxide: \$350



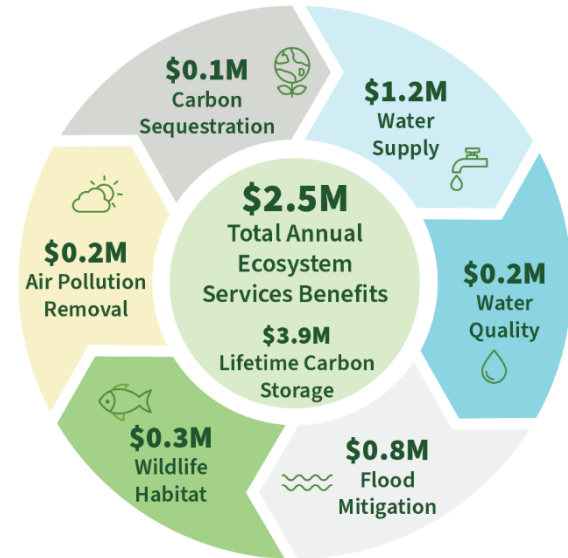
## \$3.9M in lifetime carbon storage

- 22,880 tons of carbon stored in a lifetime

## \$0.1M annually in carbon sequestration

- 560 tons of carbon sequestered annually

## Annual Environmental Benefits by Type Mercer Meadows





## Case Study: South Riverwalk Park



# Case Study: South Riverwalk Park



## Total Property Impact within 1/4 Mile

	1/4 Mile Total
Total Number of Houses within 1/4 Mile	742
Total Assessment Value	\$44,648,900
Total \$ Value of Open Space	\$1,713,829
Total % Value of Open Space	3.8%
Total \$Value/Housing Unit (market value)	\$2,310
Total Tax Value	\$87,799
Total Tax/Housing Unit	\$118



# Economic Activity

# Economic Activity

## Categories of Economic Impact



### **Protected Farmland**

Agricultural activities occurring on protected farmland.



### **Protected Open Space**

Management and maintenance expenditures at public parks (state, county, and municipal).



### **Open Space Related Tourism**

Expenditures associated with protected open space tourism.

# Total Annual Economic and State Tax Revenue Impact

## OPEN SPACE RELATED TOURISM

**\$42M Annual Impact**

Supporting 410 Jobs

\$14M in Earnings

\$900K Generated in State Taxes



**\$42M**  
Open Space  
Related  
Tourism

## PROTECTED FARMLAND

**\$7M Annual Impact**

Supporting 110 Jobs

\$2M in Earnings,

\$120k Generated in State Taxes



**\$7M**  
Protected  
Farmland



**\$55M**  
Protected  
Open Space

**PROTECTED OPEN SPACE**  
(maintenance & upkeep)

**\$55M Annual Impact**

Supporting 460 Jobs

\$24M in Earnings,

\$890k Generated in State Taxes



# Case Study: Agricultural Diversity in Mercer County



## Annual Estimated Economic Impact of Ancillary Spending from Attendees of Howell Living History Farm

	<b>Mercer County</b>
Direct Output (\$M)	\$1.8
Indirect and Induced Output (\$M)	\$1.0
<b>Total Output (\$M)</b>	<b>\$2.7</b>
<b>Employment</b>	<b>30</b>
<b>Labor Income</b>	<b>\$1.0</b>



# Environmental Services



# Economic Activity

## Categories of Environmental Services



**Air Pollution Removal**



**Water Supply Protection**



**Water Quality Improvement**



**Flood Mitigation**

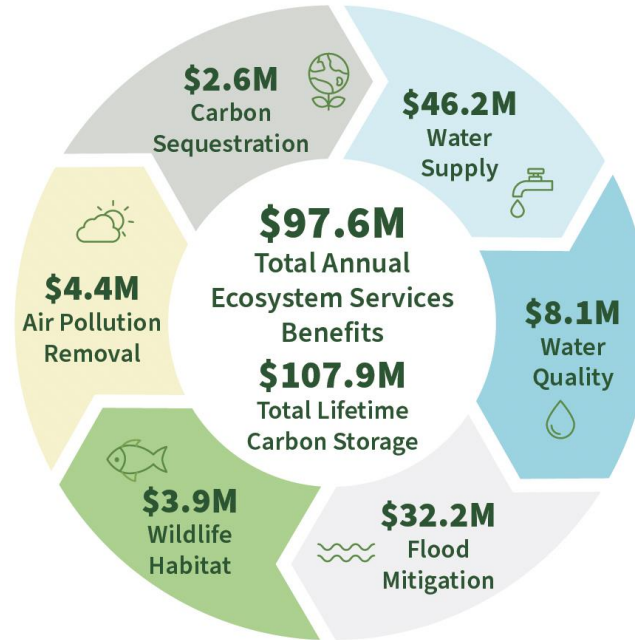


**Wildlife Habitat Conservation**

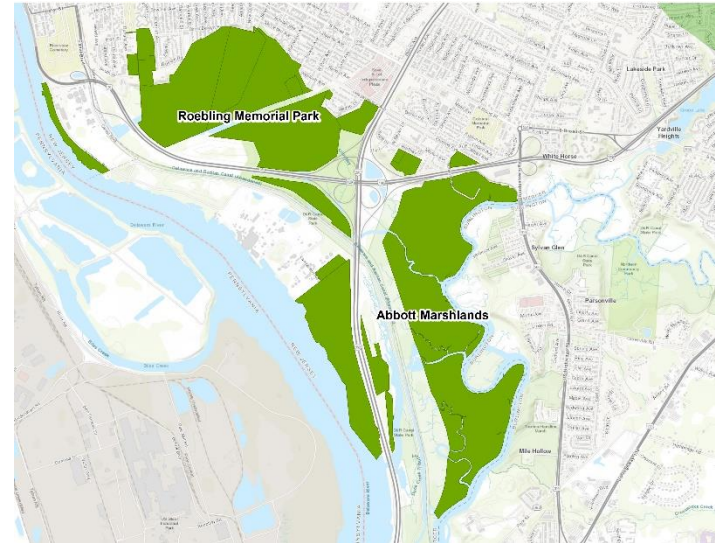


**Carbon Sequestration and Storage**

# Total Environmental Benefits Summary



# Case Study: Roebling Memorial Park and the Abbott Marshlands



# Case Study: Roebling Memorial Park and the Abbott Marshlands



## Total Property Impact within ½ Mile Roebling Memorial Park and the Abbott Marshlands

	<u>1/2 Mile Total</u>
Total Number of Houses within 1/2 Mile	3,433
Total Assessment Value	\$466,417,000
Total \$ Value of Open Space	\$15,742,958
Total % Value of Open Space	3.4%
Total \$Value/Housing Unit (market value)	\$4,586
Total Tax Value	\$465,816
Total Tax/Housing Unit	\$136

# Case Study: Roebling Memorial Park and the Abbott Marshlands



## \$0.1M in total annual Air Pollution Removal Benefits

- Ozone: \$69,150
- Particulate Matter-10: \$1,900
- Nitrogen Dioxide: \$6,450
- Sulfur Dioxide: \$800
- Carbon Monoxide: \$150



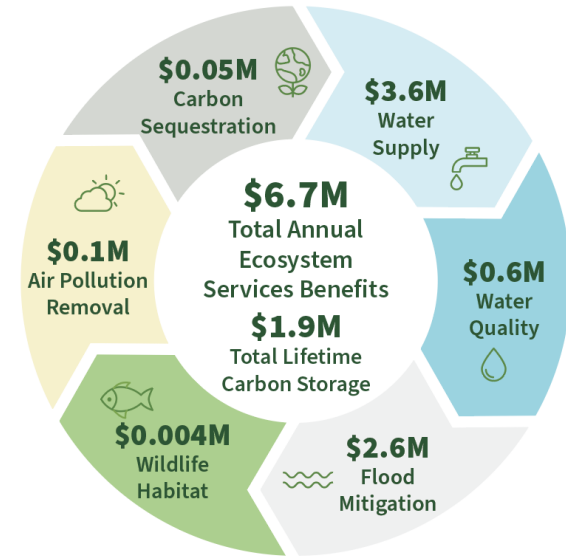
## \$1.9M in lifetime carbon storage

- 11,085 tons of carbon stored in a lifetime

## \$0.05M annually in carbon sequestration

- 270 tons of carbon sequestered annually

## Annual Environmental Benefits by Type Roebling Memorial Park and the Abbott Marshlands



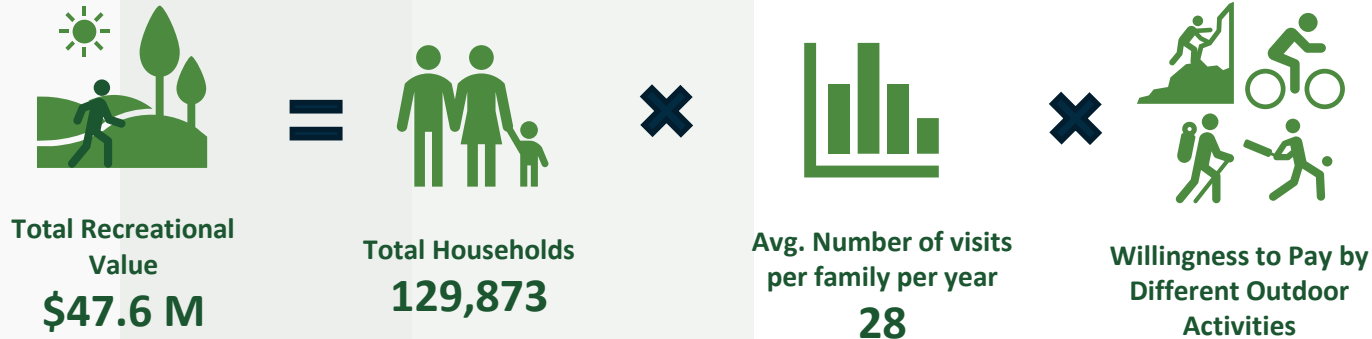


# Direct Use Benefits



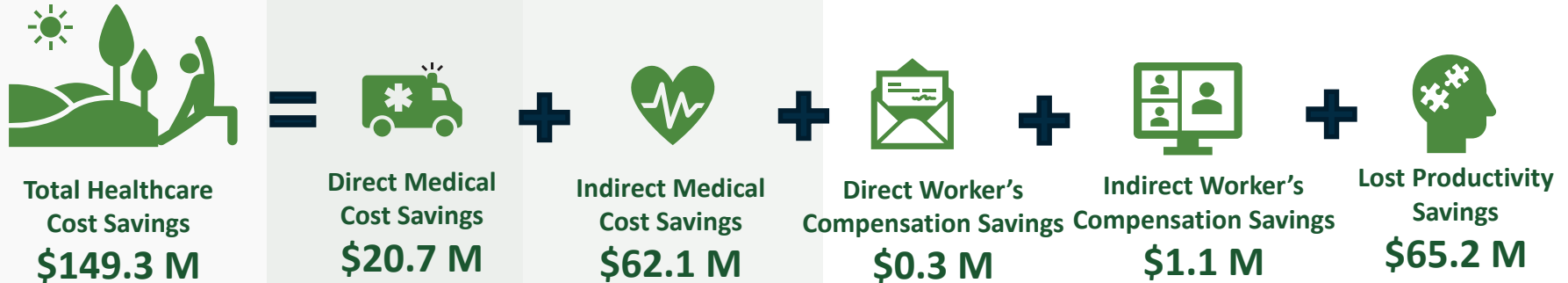
# Direct Use Benefits

- Preserved open space provides value through the recreational activities enjoyed on the open space
- Values are determined based on a consumer's "willingness to pay" (WTP) for the recreational experience
- The amount of money residents save by not having to pay market rates to partake in the recreational activities provided by the open space

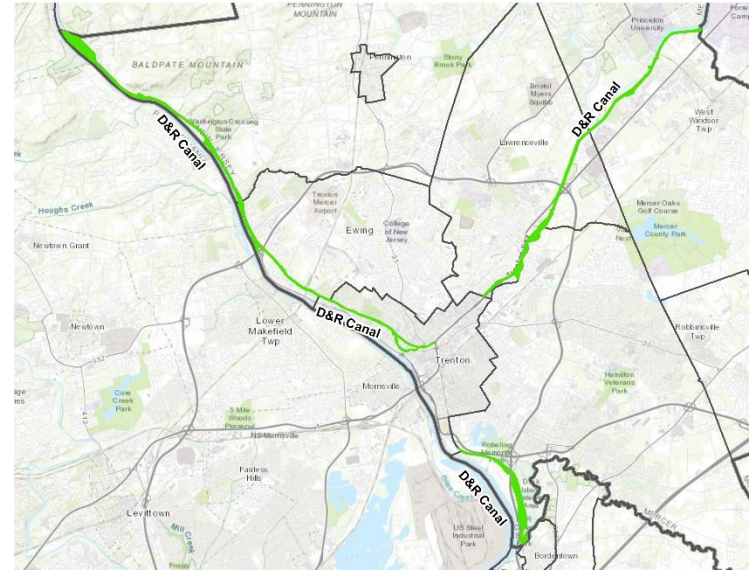


# Healthcare Cost Savings

- There is a positive relationship between the number of recreational opportunities available to an individual and the frequency of his or her participation in physical activity.
- This section seeks to use US Census data, National Outdoor Recreation Survey to quantify those benefits derived from engaging in physical activity on Mercer County's protected open spaces.



# Case Study: Delaware and Raritan (D&R) Tow Path



# Summary of Impacts



**Home and  
Property Values**



**Economic  
Activity**



**Environmental  
Services**



**Direct Use  
Benefits**  
Health & Recreation

# Case Study: Delaware and Raritan (D&R) Tow Path



## Total Property Impact within 1/2 Mile D&R Tow Path

	<u>1/2 Mile Total</u>
Total Number of Houses within 1/2 Mile	13,102
Total Assessment Value	\$2,161,378,400
Total \$ Value of Open Space	\$192,716,645
Total % Value of Open Space	8.9%
Total \$Value/Housing Unit (market value)	\$14,709
Total Tax Value	\$6,427,577
Total Tax/Housing Unit	\$491



# Case Study: Delaware and Raritan (D&R) Tow Path



## \$0.1M in total annual Air Pollution Removal Benefits

- Ozone: \$109,223
- Particulate Matter-10: \$3,006
- Nitrogen Dioxide: \$10,203
- Sulfur Dioxide: \$1,296
- Carbon Monoxide: \$250



## \$3.0M in lifetime carbon storage

- 17,506 tons of carbon stored in a lifetime

## \$0.07M annually in carbon sequestration

- 427 tons of carbon sequestered annually

## Annual Environmental Benefits by Type Delaware and Raritan (D&R) Tow Path

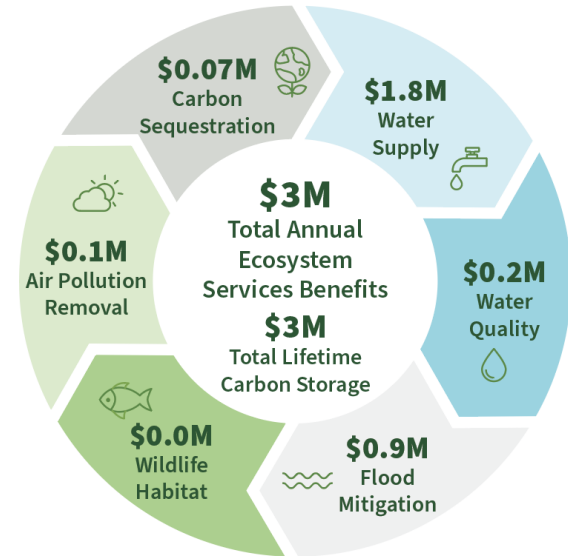
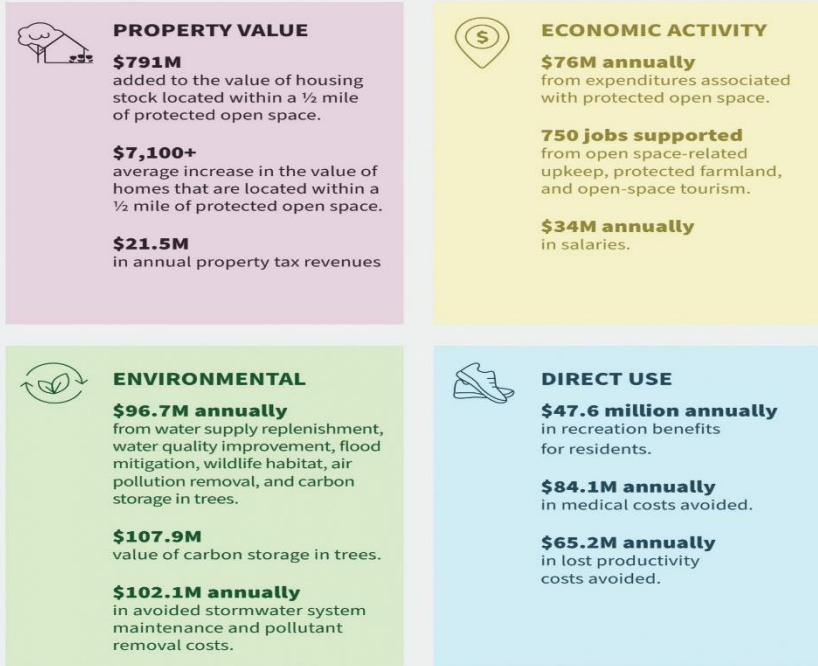




Figure E.1:  
The Key Benefits of Protected Open Space



# Thank you!