

# ECONOMIC INCENTIVES FOR *Preservation & Conservation*

Preserving natural ecosystems has many benefits. Healthy watersheds provide services like water filtration and storage, air filtration, carbon storage, nutrient cycling, soil formation, recreation, food, and timber. Many decision-makers overlook these benefits due to lack of assigned economic value. However, freshwater in the United State is currently valued at \$70 per acre-foot, and wetlands are valued at \$500 per acre. The wetlands in Tinker's Creek watershed have a total value of about \$454,000. Preservation and conservation of these resources may be more economically beneficial than many are aware.

## WATER FILTRATION AND STORAGE:

Natural ecosystems filter and store water, reducing the amount of runoff leaving the area. Wetlands are estimated to provide **\$17,147** in wastewater treatment functions per acre. If development eliminates one acre of wetland capable of storing one foot of water, the cost to the public to replace this function is estimated at **\$480**. In Tinker's Creek watershed, the wetlands retain an estimated **3,149** acre-feet of water. Retaining this amount through grey infrastructure would cost **\$94,277,202!** Stormwater runoff already costs the fishing industry between **\$24.5** and **\$44.7 million** due to the high levels of nitrogen and phosphorus it contains. Is gray infrastructure really the most economically beneficial decision?

Restoration efforts contribute an estimated **\$9.5 billion** to the economy each year. These efforts also employ 126,000 workers annually. Per \$1 million investment, ecosystem restoration can create up to 39 jobs.

*This scale (right) shows the real costs of improving water quality through natural ecosystems vs. grey infrastructure.*

## REDUCED FLOODING COSTS:

Preserving natural ecosystems will reduce costs associated with flooding. Currently, the per capita cost of flooding is approximately **\$3.14-105.18**, and the damages from flooding are costing the United States **\$8.3 billion** each year. Chances of flooding even reduce property values. Yet a **1%** increase in wetland area has the potential to decrease the chances of flooding by **1.85%** and increase property values by **\$480,000!** Preserving our natural ecosystems can result in **\$22.95** of avoided flood costs each year.

Filtering Drinking Water  
via Watershed  
Conservation: \$1.6  
billion

Nitrogen Reduction via  
Forest Buffers: \$3.31/lb

Average Wastewater  
Treatment Costs via  
Wetland Construction:  
\$0.50/1000 gal

Stormwater Basin  
Replacement:  
\$655.43/year

Filtering Drinking Water  
via Water Filtration  
Plant: \$8.5-10.6 billion

Nitrogen Reduction via  
Wastewater  
Treatment: \$1.41-  
10.66/lb

Average Wastewater  
Treatment Costs via  
Conventional  
Treatment: \$3.46/1000  
gal

Natural Ecosystems vs. Grey Infrastructure



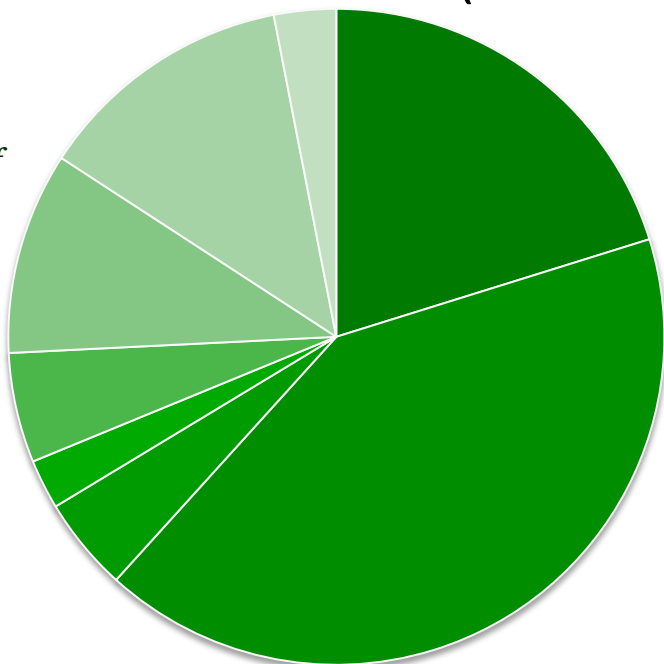


## RECREATION

Tinker's Creek watershed's are valued at approximately **\$37 million**. Natural ecosystems contribute **\$953 billion** to the economy each year. **\$114.8 billion** of this contribution comes from state and federal tax revenues stemming from outdoor recreation activities. This value is broken down by category in the pie chart below. Preserving natural ecosystems has a high recreational value that decision-makers often overlook.

## STATE & FEDERAL TAX REVENUES (BILLIONS OF DOLLARS)

*Natural areas contribute \$953 billion to the economy each year, \$88 billion of which stems from state and federal tax revenues.*



- Cycling (\$23.1)
- Camping (\$47.5)
- Fishing (\$5.3)
- Hunting (\$2.8)
- Paddling (\$6.2)
- Snow Sports (\$11.4)
- Trail Activities (\$14.6)
- Wildlife Watching (\$3.5)

## HEALTH BENEFITS

Access to natural areas provides many health benefits for citizens. Natural areas are opportunities for mental stress relief and physical exercise. People who stay in good shape are shown to have fewer insurance claims and hospital visits, providing yet another reason why our natural areas should be conserved.



## PROPERTY VALUES

The presence of nearby natural areas and wetlands increases the property values of adjacent homes by an estimated **5.33%**. In fact, a 1 acre increase in wetland area is correlated with a **\$1,100** increase in adjacent property values. In addition, properties near natural areas have higher resident retention rates and higher premiums even in tight economies. Lots with trees or located near parks are estimated to be **20%** easier to sell than normal lots. Home values are shown to decrease significantly, however, with decreasing water quality. Natural areas can have economic benefits for properties owners only if they are protected and maintained.

The Northeast Ohio Regional Sewer District leads effective wastewater and stormwater management that protects the health and environment of the region while enhancing quality of life for more than 1 million residents.

IMAGE CREDIT: <http://conservationmagazine.org/> & <https://www.123rf.com/>