

ASSESSMENT OF

ECOSYSTEM BENEFITS

Using the best available science from i-Tree tools, values were calculated for some of the benefits and functions provided by the urban tree canopy in Bellevue, Washington. The urban forest holds millions of dollars of savings in avoided infrastructure costs, pollution reduction, and stored carbon. The following values were calculated using the USDA Forest Service's i-Tree Landscape tool with the City of Bellevue's total acres of urban tree canopy as the input data.

AIR QUALITY

Trees produce oxygen, indirectly reduce pollution by lowering air temperature, and improve public health by reducing air pollutants which cause death and illness. The existing tree canopy in Bellevue removes approximately 520,300 pounds of air pollution annually, valued at over \$2,589,762.

BENEFIT	UNITS	VALUE
Pollution Removed	520,284 tons/yr	\$2,589,763
Runoff Avoided	700 M gal/yr	\$6,259,703
CO2 Sequestered	7,172 tons/yr	\$1,223,204
ANNUAL VALUE PROVIDED		\$10,072,669
CO2 Stored	362,446 tons	\$61,815,465

STORM-WATER AND WATER QUALITY

Trees and forests mitigate storm-water runoff which minimizes flood risk, stabilizes soil, reduces sedimentation in streams and riparian land, and absorbs pollutants, thus improving water quality and habitats. The tree canopy in Bellevue absorbs over 700 million gallons of water per year. Extrapolated citywide, this means that the City of Bellevue's existing canopy provides over \$6,259,702 annually in storm-water benefits.

CARBON STORAGE AND SEQUESTRATION

Trees accumulate carbon in their biomass; with most species in a forest, the rate and amount increase with age. The trees of Bellevue store approximately 362,450 tons of carbon, valued at over \$61.8 million (or \$170 per ton), and each year the tree canopy absorbs and sequesters approximately 14.3 million pounds of carbon dioxide, valued at over \$1.2 million.

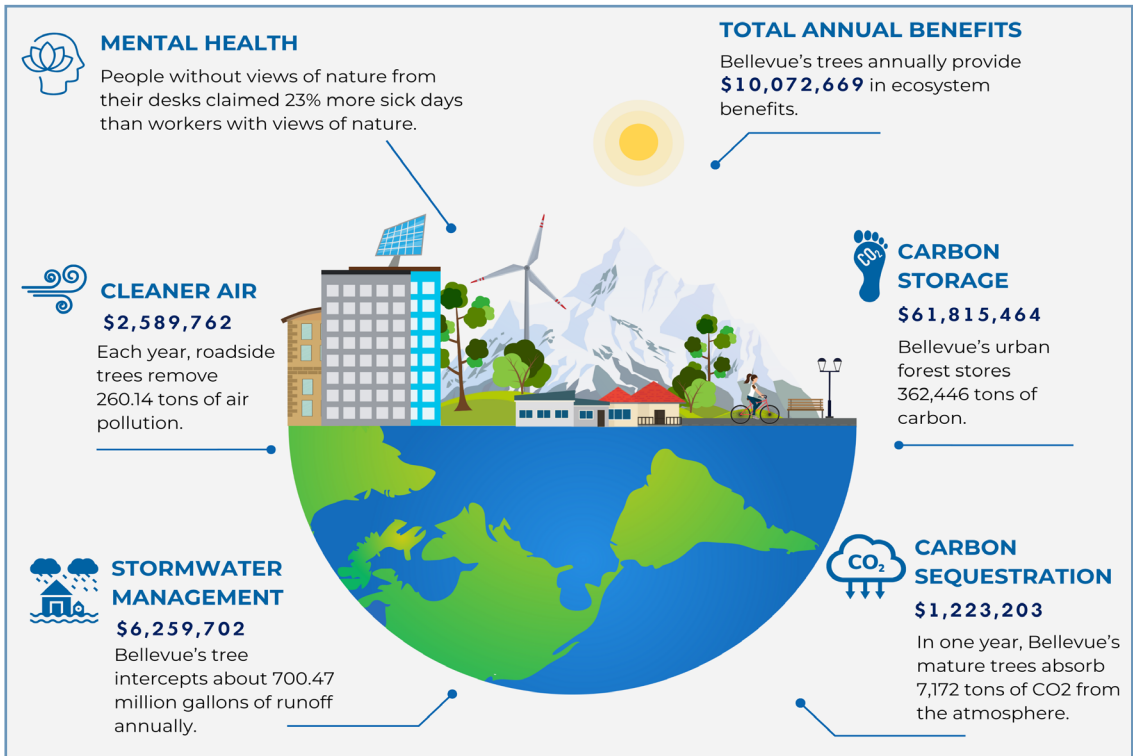


Figure 23. | Eco-benefits of Bellevue's urban forest derived from i-Tree. Additional data sourced from the [Arbor Day Foundation](#) and the [EPA](#).