## The Value of Trees

Studies prove that trees have a positive effect on many aspects of people's lives, including their health, homes, businesses, communities, drinking water, and air quality.

### Economic Contributions

- Research shows that shoppers in well-landscaped business districts are willing to pay more for parking and up to 12% more for goods and services.[27]
- Landscaping, especially with trees, can significantly increase property values. Here is one example: A value of 9% ($15,000) was determined in a U.S. Tax Court case for the loss of a large black oak on a property valued at $164,500.[12]
- Trees reduce runoff and erosion from storms by about 7% and reduce the need for erosion control structures. In urban areas with trees, the use of smaller drainpipes can save cities on materials, installation and maintenance.[11]
- Desk workers with and without views of nature were surveyed. Those without views of nature, when asked about 11 different ailments, claimed 23% more incidence of illness in the prior 6 months.[6]
- Amenity and comfort ratings were about 80% higher for a tree-lined sidewalk compared with those for a nonshaded street. Quality of products ratings were 30% higher in districts having trees over those with barren sidewalks.[28]
- In the United States over 200 million cubic yards of urban tree and landscape residue are generated every year.[26]
- Of the 200 million cubic yards of urban tree and landscape residue, 15% is classified as "unchipped logs." If these logs were sawn into boards, they theoretically would produce 3.8 billion board feet of lumber, or nearly 30% of the hardwood lumber produced annually in the United States.[1]

### Energy Savings

- The net cooling effect of a young, healthy tree is equivalent to 10 room-size air conditioners operating 20 hours a day.[20]
- Trees properly placed around buildings as windbreaks can save up to 25% on winter heating costs.[5]
- As few as three trees properly positioned can save the average household between $100 and $250 annually in energy costs.[23]
- Fifty million shade trees planted in strategic, energy-saving locations could eliminate the need for seven 100-megawatt power plants.[10]
- Shade from two large trees on the west side of a house and one on the east side can save up to 30% of a typical residence's annual air conditioning costs.[17]
- Annual benefits provided by parking lot trees in Sacramento, California, (8.1% tree shade) were valued at approximately $700,000 for improved air quality. By increasing shade to 50% in all parking lots in Sacramento, the annual benefits will increase to $4 million.[9]
- Rows of trees reduce windspeed by up to about 85%, with maximum reductions increasing in proportion to visual density. Because even a single row of dense conifers can cause large reductions in windspeed, effective windbreaks can be planted on relatively small house lots. Compared with an open area, a good windbreak that does not shade the house will save about 15% of the heat energy used in a typical home.[4]

## Environmental Contributions

- Modest increases of 10% canopy cover in the New York City Area were shown to reduce peak ozone levels by up to 4 parts per billion or by nearly 3% of the maximum and 37% of the amount by which the area exceeded its air quality standard. Similar results were found in Los Angeles and along the East Coast from Baltimore to Boston.[8]
- Leafy tree canopies catch precipitation before it reaches the ground, allowing some of it to gently drip and the rest to evaporate. This lessens the force of storms and reduces runoff and erosion. Research indicates that 100 mature tree crowns intercept about 100,000 gallons of rainfall per year, reducing runoff and providing cleaner water.[25]
- Trees reduce noise pollution by absorbing sounds. A belt of trees 98 feet wide and 49 feet tall can reduce highway noise by 6 to 10 decibels.[13]
- Trees in Davis, California, parking lots reduced asphalt temperatures by as much as 36 degrees Fahrenheit, and car interior temperatures by over 47 degrees Fahrenheit.[16]
- Philadelphia's 2.1 million trees currently store approximately 481,000 metric tons of carbon with an estimated value of $9.8 million.[14]
- A typical community forest of 10,000 trees will retain approximately 10 million gallons of rainwater per year.[24]
- Hospital patients that see trees need less medication and have faster recovery times after surgery.[22]
- Views of nature reduce the stress response of both body and mind when stressors of urban conditions are present.[15]

## Social Contributions

- Trees in urban parks and recreation areas are estimated to improve outdoor leisure and recreation experiences in the United States by $2 billion per year.[3]
- Trees reduce crime. Apartment buildings with high levels of greenery had 52% fewer crimes than those without any trees. Buildings with medium amounts of greenery had 42% fewer crimes.[7]
- Hospital patients recovering from surgery who had a view of a grove of trees through their windows required fewer pain relievers, experienced fewer complications, and left the hospital sooner than similar patients who had a view of a brick wall.[21]
- Americans travel about 2.3 billion miles per day on urban freeways and highways. Studies show drivers exposed to roadside nature scenes had a greater ability to cope with driving stresses.[29]
- Symptoms of Attention Deficit Hyperactivity Disorder (ADHD) in children are relieved after contact with nature. Specifically, ADHD kids are better able to concentrate, complete tasks, and follow directions after playing in natural settings. The greener the setting, the more relief.[18]
- Trees help girls succeed. On average, the greener a girl's view from home, the better she concentrates and the better her self-discipline enabling her to make more thoughtful choices and do better in school.[19]
- Trees and forests in urban areas convey serenity and beauty along a number of sensory dimensions, often surrounding the individual with nature in an environment where natural things are at a premium.[2]