

Statewide Summary of South Dakota's Urban Forest

Number of trees	5,414,000
Tree cover in communities (%)	17.0
Pollution removal	
tons/year	1,350
\$ million/year	10.0
Carbon storage	
tons	697,000
\$ million	14.4
Carbon sequestration	
tons/year	28,400
\$ per year	588,000
Building energy reduction	
\$ per year	519,000
Reduced carbon emissions	
\$ per year	7,300
Compensatory value	
\$ billion	5.1
5 most common species (%)	
ponderosa pine	21.3
ash	20.4
willow	9.3
other pine	8.3
elm	5.7
Land uses (%)	
residential/farms	28.8
other	27.3
commercial/industrial/transportation	24.7
agriculture	19.2
Pests	
Asian longhorn beetle (% of trees)	54.4
compensatory value (\$)	3.4 billion
Gypsy moth (% of trees)	16.4
compensatory value (\$)	285 million
Emerald ash borer (% of trees)	20.4
compensatory value (\$)	1.7 billion
Dutch elm disease (% of trees)	5.7
compensatory value (\$)	451 million



Resources:

1. **Benefits of Trees.** Retrieved November 1, 2012 from Friends of the Urban Forest website: <http://www.fuf.net/resources/treeBenefits.html>
2. McPherson, E.G.; *et al.* 2003. **Northern Mountain and Prairie Community Tree Guide: Benefits, Costs, and Strategic Planting.** Gen. Tech. Rep. PSW-GTR-258. Davis, CA: US Department of Agriculture, Forest Service Pacific Southwest Research Station. 19 p.
3. Nowak, David. J.; Hoehn, Robert E. III; Crane, Daniel E.; Bodine, Allison R. 2012. **Assessing Urban Forest Effects and Values of the Great Plains: Kansas, Nebraska, North Dakota, South Dakota.** Resour. Bull. NRS-71. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 75 p.
4. U.S. Department of Agriculture Forest Service. (2011). **Trees Pay Us Back in the Northeast Region** [Brochure].



Division of Resource Conservation and Forestry

523 E. Capitol Avenue

Pierre, SD 57501

Email: SDRCF@state.sd.us

<http://sdda.sd.gov/conservation-forestry/>

In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs. To file a complaint of discrimination: write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue SW, Washington D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer. This publication made possible through a grant from the USDA Forest Service.

Urban Forest Benefits



What Do Urban Trees Do For You?





\$942

The Average Value of an Urban Tree in South Dakota*

South Dakota's Community Forests

- ☐ Improve quality of life
- ☐ Raises property values



- ☐ Save energy
- ☐ Clean the air
- ☐ Reduce noise pollution
- ☐ Improve water quality
- ☐ Reduce erosion
- ☐ Improve business foot traffic

It Pays to Care for Trees!

One large public tree, 40 years after planting averaged:

Annual benefits	\$40.00
Annual costs	\$12.00
Annual net benefits	\$28.00
Annual net benefits for 500 trees	\$14,000

"The greatest benefits are higher property values and energy savings from heating and cooling."

Building energy reduction value per year: \$519,000*



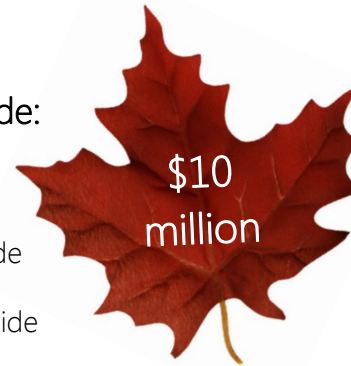
* Based on Reference 3.

The 5.414 million trees that compose South Dakota's urban forests provide these benefits

W Remove 1,350 tons of total pollutants per year at a value of:

Pollutants include:

- ☐ Ozone
- ☐ Nitrogen dioxide
- ☐ Carbon monoxide
- ☐ Sulfur dioxide
- ☐ Particulate matter



W Store⁺ 697,000 tons of carbon per year at a value of:



W Sequester⁺⁺ 27,200 tons of carbon per year at a value of:



* Carbon Storage: storing carbon (as biomass) - this is considered long-term storage.

**Carbon Sequestration: removing carbon from the atmosphere (through photosynthesis).

*Calculated by:
 $\frac{\$5.1 \text{ billion value (all trees)}}{5.414 \text{ million trees}} = \942 per tree