
ENVIRONMENTAL FACT SHEET

How Green Spaces
Benefit the Environment



— PROJECT —
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How Green Spaces Benefit the Environment

- **Urban advantages.** More green space within a city's boundaries can improve the urban environment. Among the green space advantages listed in *Ecoplanit Madison: Green Space Goal (UW-Madison Department of Urban and Regional Planning)* are: Helping regulate air quality and climate... reducing energy consumption by countering the warming effects of paved surfaces....recharging groundwater supplies and protecting lakes and streams from polluted runoff.¹
- **Water quality protection.** Proper landscaping reduces nitrate leaching from the soil into the water supply and reduces surface water runoff, keeping phosphorus and other pollutants out of our waterways and preventing septic system overload.²
- **Reduced heat buildup.** Trees in a parking lot can reduce on-site heat buildup, decrease runoff and enhance night time cool downs. Tests in a mall parking lot in Huntsville, Ala. showed a 31 degree difference between shaded and unshaded areas.³
- **Reduced soil erosion.** A dense cover of plants and mulch holds soil in place, keeping sediment out of lakes, streams, storm drains and roads; and reducing flooding, mudslides and dust storms.³
- **Improved air quality.** Trees, shrubs and turf remove smoke, dust and other pollutants from the air. One tree can remove 26 pounds of carbon dioxide from the atmosphere annually, equaling 11,000 miles of car emissions. One study showed that one acre of trees has the ability to remove 13 tons of particles and gases annually.⁴
- **Lower summer air temperatures.** Trees shading homes can reduce attic temperatures as much as 40 degrees. According to the EPA, urban forests reduce urban air temperatures significantly by shading heat sinks such as buildings and concrete, and returning humidity to the air through evaporative cooling.⁵
- **Natural resource conservation.** By using trees to modify temperatures, the amount of fossil fuels used for cooling and heating is reduced. Properly placed deciduous trees reduce house temperatures in the summer, allowing air conditioning units to run 2 to 4 percent more efficiently, but allow the sun to warm the house in the winter.⁶

Bibliography: Environmental Fact Sheet

1 UW-Madison Department of Urban and Regional Planning: *Ecoplanit Madison: Green Space Goal*, <http://urpl.wisc.edu/ecoplan/index.php?page=goal>

2 Virginia Cooperative Extension: *The Value of Landscaping*, <http://www.ext.vt.edu/pubs/envirohort/426-721/426-721.html#TOC>

3 Wolf, K.L., Ph.D., University of Washington, <http://www.cfr.washington.edu/research.envmind/transportation.html>;
Wolf, K. L. 2004, *Trees, Parking and Green Law: Strategies for Sustainability*. Stone Mountain, GA: Georgia Forestry Commission, Urban and Community Forestry,
http://www.cfr.washington.edu/research.envmind/Roadside/Trees_Parking.pdf

4,5,6 Virginia Cooperative Extension: *The Value of Landscaping*, op. cit



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