



Healthy Trees, Healthy Lives is a national initiative that works to increase understanding and communication between the forest and public health sectors to ensure everyone has access to trees, forests and their numerous benefits. This is carried out through community forestry management to improve public health, reduce health care costs and equitably create happier, healthier communities.

AIR POLLUTION 101

Increased temperatures create excessive demand for energy needed to sustain communities, homes, and businesses.

This in turn leads to an increase in air pollutant and greenhouse gas emissions.

It also disproportionately impacts disadvantaged communities.

Impacts to Human Health

Air pollution is linked to asthma and other respiratory and cardiovascular issues.

- Increases in ground-level ozone, which is a pollutant derived from fossil fuel emissions reacting with sunlight and increased heat.
- Particulate matter (PM) is a mixture of pollutants and liquid droplets found in the air. PM ranges in size from microscopic to highly visible like smoke and mold – both can be inhaled directly into your lungs or bloodstream.

How trees improve air quality

Truly one of the best defenses is utilizing urban and community forests, trees and vegetation to help cool and clean the environment. Trees are effective air filters by design. They are most commonly known for intaking CO₂ and producing clean oxygen, but forests also act as sinks for carbon and other harmful pollutants like ground level ozone, NO_x and PM. Trees and vegetation also lower surface and air temperatures and help better circulate air flow within a community to help mitigate negative impacts of air pollution exacerbated by heat. This is accomplished through natural functions of trees and forests. This first is shade from tree canopies. Shaded areas are protected from direct sunlight, which can reduce temperatures between 20 to 45 degrees relative to peak temperatures in unshaded areas. (Akbari, Kurn, et al. 1997). Next is evapotranspiration, which is a process by which plants absorb water through their roots and release it as vapor through their leaves. This liquid to gas process intakes heat from the surrounding air and helps to cool communities. Trees can transpire 100 gallons of water every day, which has the same cooling effect as 5 standard air conditioning machines running for 20 hours (Akbari, H. 2009).