



**AMERICAN FORESTS**  
Protecting & Restoring Forests

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## Clean Air & Water

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### Clean air and clean water are products of forests.

The role of trees and forests in our ecosystems is absolutely critical. Forests renew our air supply by absorbing carbon dioxide and producing oxygen. Trees also clean our atmosphere by intercepting airborne particles, and by absorbing ground-level ozone, carbon monoxide, sulfur dioxide, and other greenhouse gases. A single tree can absorb 10 pounds of air pollutants a year, and produce nearly 260 pounds of oxygen- enough to support two people.

Urban trees can do even more for clean air. Depending on location, species, size, and condition, shade from trees can reduce utility bills for air conditioning in residential and commercial buildings by 15 to 50%. Through shade and the evaporation of water from their leaves, trees also provide natural, low-tech cooling that reduces energy use and the need to build power plants.

While the role of trees in cleaning the air is well understood, the ecosystem services that forests perform regarding water is still being explored. Forests, it turns out, act as natural reservoirs, treatment plants, and stormwater management systems.

Forests provide natural filtration and storage systems that process nearly two-thirds of the water supply in the United States. In their natural and healthy state, riparian forests help to keep the water in streams clear. When you drink a glass of tap water in a New York City restaurant, you're drinking water that was filtered largely by the forests of upstate New York. The forests do such a good job that the city only needs to do a minimum of additional filtering.

The ability of forest vegetation and soils to absorb and filter water also increases groundwater, as clean water trickles down to feed aquifers that may be tapped hundreds of miles away by thirsty cities. This same capacity to absorb water helps moderate runoff during rainstorms, and is one reason that cities around the nation are aggressively planting trees. As part of regional efforts to clean up the Chesapeake Bay, the city of Baltimore is planting thousands of trees to reduce stormwater runoff and cut down on pollutants that enter the Bay.

The same ecosystem services are just as important in rural areas in need of clean water. In partnership with the Indian nonprofit Resource Institute of Social Education, American Forests is planting 150,000 trees in **Pondicherry, India**, to help replenish groundwater, which was being depleted and polluted despite the area's heavy annual rainfall and the presence of two rivers.

Whether you live in a small country town or a bustling city, trees near and far are providing you with the most basic elements for survival: clean air and water. Though forests provide many additional services, these two are the backbone of the symbiotic and essential relationship between trees and people.

### Help Us Restore and Protect Forests.

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