



Trees for Sacred Places Program: Measureable Results

As of July 2015

As of July 2015, the Trees for Sacred Places Program (a collaboration between Interfaith Partners for the Chesapeake and The Alliance for the Chesapeake Bay) has worked with **32 congregations/faith-owned properties** to plant 2,909 trees. An additional 500 trees were distributed at a Tree Give-Away event in Anne Arundel County among under-represented congregations. The below impacts are for the 3,400 trees cumulatively.

Improved Air Quality

On average, one acre of new forest can sequester about 2.5 tons of carbon annually and young trees absorb CO₂ at a rate of 13 pounds per tree each year.¹ The 3,400 trees planted through the program thus far will:

- Sequester approximately 44,200 lbs. (22.1 tons) of CO₂ per year.
- When these young trees reach 10 years of age, they will absorb an estimated total 163,200 lbs (81.6 tons) of CO₂ (at 48 lbs per tree) per year.

Increased Water Retention and Improved Quality

One hundred mature trees intercept approximately 100,000 gallons of rainfall per year. And for every 5 percent of tree cover added to a community, storm water runoff is reduced by approximately 2 percent/year.¹ By holding water in the canopy and slowing the rate of impact of the droplets and improving the porosity of soil, ground water is conserved and rapid runoff is prevented. So 3,400 trees, when mature, will:

- Intercept approximately 3.4 million gallons of rainfall each year

Looking ahead to 2016:

We will be planting at approximately 10 acres with a density of 100 trees/acre or greater to achieve 1,500 planted trees. Because all sites are not selected, we can use the prospective sites and extrapolate for all 25. We will be treating ~2,487,161.2 sq. ft. of impervious surface across all 25 sites, approximately 80% of the total impervious surface at these properties. The total drainage area is approximately 10,044,429.1 sq. ft. across all 25 sites so a 1" rain event will produce 6,261,470 gallons of water to be treated. We will be removing 519.95 lbs/yr of Nitrogen, 50.2lbs/yr of Phosphorus and 0.63 tons/yr of Sediment. Calculations for this are included as an attachment.

These 1,500 trees will also:

- Sequester approximately 19,500 lbs. (9.75 tons) of CO₂ per year
- Intercept approximately 1.5 million gallons of rainfall each year

¹ Calculations made based on information provided by the Urban Forestry Network.

<http://urbanforestrynetwork.org/index.htm>

Other sources: City Urban Tree Surgeons http://www.citysuburban.co.uk/benefits_of_trees.htm