

## Project Document Addendum: Sustainable Development Goal Impacts

SDG Goal	Substantiation
6. Clean Water and Sanitation	Prior to afforestation, the typical land use of the afforested area was annual row crops with conventional tillage. Very little conservation tillage is used in the region, and it is rare the soil to be continuously cover by living plants or dead plant material. In the baseline, typically soil is bare through the winter. The project established permanent vegetation cover, nearly eliminating soil erosion and improving water quality. In addition to water quality improvements from reducing soil erosion, the project reduces application of nitrogen and phosphorus fertilizer, reducing runoff of these nutrients. Much of phosphorus export is bound to soil particles so nearly eliminating soil erosion eliminates most phosphorus water pollution. The U.S. Geological Survey, for every 100,000 acres of farmland restored to its natural bottomland forest, the release of 1,550,000 pounds per year of nitrogen and phosphorous into the Mississippi River are avoided. EPA estimates that at least 12 tons of soil wash into the Gulf of Mexico from every acre of cropland in the lower Mississippi. While this project had not yet removed or opened levees, much of the project area is susceptible to seasonal flooding and the forests established by the project on these sites are ecologically adapted to season flooding. Thus the project makes flooding more acceptable, and residence time in shallow flood waters helps increase denitrification of excessive nitrogen in flood waters, decreasing the “dead zone” in Gulf of Mexico that is caused by excessive nitrogen in Mississippi River waters.
7. Affordable Clean Energy	The planting regime of interplanting Cottonwoods (or other “trainer” tree species such as Sweetgum) with long-lived native hardwoods produces habitat faster than planting slower growing, non-Cottonwood hardwoods alone. Ideally, Cottonwoods are cut in two or three thinnings between ages 8 and 23, to make room for the other hardwoods. Removed Cottonwood trees may be chipped and cost effectively used to generate renewable energy.
8. Decent Work and Economic Growth	The success of the GreenTrees project depends on the people who implement it doing good work. To get good work we must build people’s skills and treat them well enough that they stay with the project. People with skills have many options. In particular we work with our tree nursery workers, planting staff and field technicians to ensure that working conditions meet their needs and compensation is competitive, and make sure that they know that their high-quality work is valued. Carbon credit revenues and revenues from wood products give landowners livelihood incomes while restoring forests, increasing forest habitat, and mitigating greenhouse gas emissions.
10. Reduced Inequalities	For 150 years Black farmers in the US have often been denied access to funding and support provided to White farmers. We are increasing our efforts to reach out to Black farmers and enroll them in the GreenTrees program.
13. Climate Action	Cumulative removal of 6,270,862 tCO <sub>2</sub> e from the atmosphere, confirmed by project verification.
14. Life on Land	This project has restored over 130,000 acres of forest, confirmed by project verification. Forty percent of North America’s waterfowl and sixty percent of all bird species migrate along the Mississippi River, and populations have been dwindling from habitat loss. Federal biologists estimate that seven years after

	planting, a GreenTrees forest would hold twice the migratory birds than would a comparable field planted with just hardwoods. The project restores soil by stopping tillage and establishing permanent plant cover, increasing soil organic matter and soil tilth. By establishing permanent vegetation cover over soil, the project reduces dust.
16. Peace. Justice and Strong Institutions	GreenTrees holds meeting several times a year for state, federal and local officials as well as landowners. Currently, over 500 landowners are participating in the project and the project communicates with every landowner at least annually. Project foresters live in the region and keep informed about local concerns and opinions of forest users who are not currently participating in the project.