



# Trees for the Environment

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The American Chestnut Society was looking for school sites to grow trees. These trees were the result of various methods of genetic engineering to produce blight resistant trees. Through Thorpewood Environmental Center, Carroll County students worked with teachers to establish Chestnut research and have a positive impact on the environment. The groves are being used for various secondary projects; reforestation, riparian stream banks, erosion control, and landscaping. To support the project, a Chestnut curriculum has been developed and introduced into the Ecology and Research classes completing the service program. Best practices:

Best Practice 1: What recognized community need was met by your project? The community need met by this project is the data gained about the chestnuts and the blight. By planting thousands of trees, the chance of a blight resistant tree being found increases greatly. In addition, the trees can be used to complete secondary projects. During the study of forestry, the loss of the Wye Oak was discussed, and its impact on the environment analyzed. The students were interested in other trees that have disappeared from the Maryland habitat. This led to a forest analysis of trees still observed today compared to trees historically seen in Maryland. The analyses showed the loss of the once dominant species of American Chestnut. The Maryland habitat will be improved by this project. Trees clean the air, capture ground water, stop surface runoff and prevent erosion. This project will help the habitat and gather research data.

Best Practice 2: How was the project connected to the school curriculum and curricular objectives? This project initiated an entire curriculum development in the Ecology and Research classes. The trees support understanding of genetics, tree classification, Fungi study, cell study and habitat restoration.

Best Practice 3: How did participants reflect on their experiences throughout the project? Reflections were in the form of criterion reference construction (process that supports the High School Assessments - HSAs). There is also an educational component to the program where the high school student's work with younger students. Pictures were developed into PowerPoint presentations to share the experience with others.

Best Practice 4: How did students take leadership roles and take responsibility for the success of the project? The students developed research teams to design the plantings, collect data, and do the actual grove construction. PowerPoint presentations were also student produced.

Best Practice 5: What community partners were worked with on this project? The community partners in this project are Thorpewood Educational Center, Hawasha Outdoor Center, T. S.

Landscaping, South Mountain Chestnut Research and the American Chestnut Society (Maryland Chapter).

Best Practice 6: How did you prepare and plan ahead for the project? The project requires background knowledge in genetics, tree identification, planting techniques, fungi growth and control, and data collecting procedures. There are several labs in these areas to prepare for the grove planting. A series of reference articles are provided to students and activities are designed to give them background in the various areas of study.

Best Practice 7: What knowledge and skills did students develop through this project? The project applied many areas of science knowledge and taught skills in how to plant and care for the trees. The data collected reinforced graphing, chart design and data analysis. The planning of the grove applied calculation and geometric skills. Budgets were designed as well as special drawings of the grove. The final presentation of each group's data required planning for the PowerPoint and research into the background of the chestnut.