

Howard's Branch Project

Recovery of Atlantic White Cedars

to the Severn River

1. Recovers the Atlantic white cedar tree to the Western Shore of the Chesapeake Bay, currently listed as a state threatened species. It, too, is listed by the Nature Conservancy as G2 and G3 (globally impaired ecosystem). Additionally, since 1997 a sustained 3% loss per year has been recorded.

Atlantic white cedar trees are a species which occur only on the coastal plain of eastern North America from Maine to Florida. These trees were heavily harvested throughout the 1800s for shipbuilding. Currently, there are seven sites containing this species on the western shore of Maryland, all of which occur in Anne Arundel County on the Severn and Magothy Rivers. Of the approximate 1,200 trees remaining of this threatened species it has been determined that this low population will not guarantee the survival of the species west of the Chesapeake - west of the Chesapeake in terms of the whole Earth.

In addition, these particular trees filter and purify water as it flows through the histosols (organic soils) that they create. The fallen needles of cedars are a primary component of histosol formation, which store large quantities of nitrogen pollution. Increasing the numbers of white cedar along the Chesapeake Bay watershed improves water quality by reducing levels of nitrogen, phosphorus, metals, and other pollutants entering waters of the Bay.

This single project to planted more than 1,000 trees thus nearly doubling the number of Atlantic white cedars west of the Chesapeake Bay. Further, it would provides the single largest pure stand of Atlantic white cedars in the state.

2. Interdicts polluted waters entering Brewer Creek / Idle River. A creek used by many for boating, swimming, fishing, and crabbing.
3. Interdicts heavy nutrient flows into the creek, river, and bay through nutrient uptake, microbial utilization, and the formation of histosols within the proposed created wetlands - with the net effect of discharge that is cleaner than rainwater.
4. Interdicts large sediment flows into Brewer Creek and the Severn River through stream flow stabilization as a result of creating this nontidal wetland buffer. Note: These sediment flows severely impact shallow water and underwater grass habitat within the creek.

5. Restores a degraded stream known as Howard's Branch and enhances 2.5 acres of nontidal wetlands.
6. Supports major goals of the Chesapeake Bay Agreement for stream restoration, wetland creation and enhancement, and resource recovery.
7. Supports strategic objectives of: the Chesapeake Bay Program, Maryland's Tributary Strategies Committee, Chesapeake Bay Foundation, and the Severn River Association.
8. Supports major goals of Anne Arundel County's General Development Plan and the Crownsville Small Area Plan.
9. Constructed a high quality wetland through an ecosystem approach. An approach that repairs the geology of a site within the coastal plain and engineered to drive the hydrology within the wetland serving to form a functional complex wetland system. The Howard's Branch Project is first of its kind in Maryland.
10. Work to be performed by Underwood & Associates, recognized experts in the these systems and this species - with a proven record of success in constructing complex wetland systems.

Recovery of the Atlantic White Cedar to the Chesapeake Bay

1. Atlantic white cedar trees are a coastally (shoreline) restricted species, which occurs only on the coastal plain of eastern North America from Maine to Florida.
2. Atlantic white cedar trees were heavily harvested throughout the 1800s for shipbuilding.
3. Currently, there are seven sites containing this species on the western shore of Maryland, all of which occur in Anne Arundel County on the Severn and Magothy Rivers.
4. Of the approximate 1200 trees remaining of this threatened species it has been determined that this low population will not guarantee the survival of the species within the Severn River, or west of the Chesapeake.
5. Currently a number of area schools are growing Atlantic white cedar trees to begin the recovery of these trees to the river and Bay.
6. These cedar trees filter and purify water as it flows through the wetlands that they create. The fallen needles of cedars are a primary component of histosols (organic soils), which store large quantities of nitrogen pollution in their formation.
7. Increasing the numbers of white cedar along the Chesapeake Bay watershed improves water quality by reducing levels of nitrogen, phosphorus, metals, and other nutrients entering waters of the Bay.
8. Atlantic white cedars are globally impaired and state threatened.

Atlantic White Cedar

Technical Description

Atlantic White Cedar (*Chamaecyparis thyoides*), a tree of the Cypress family, Cupressaceae, with short branches and evergreen, scale-like leaves that form a soft, flat spray. It grows to 25m (80 ft) with a straight trunk with cinnamon-brown to gray peeling bark and a twisting grain. AWC swamps are often composed of nearly pure stands of Atlantic White Cedar, but Red Maple (*Acer rubrum*) may be a codominant species, along with lesser amounts of Blackgum (*Nyssa sylvatica*), Yellow Birch (*Betula alleghaniensis*), and White Pine (*Pinus strobus*).

The shrub layer is composed of hollies and ericaceous shrubs. The former include Common Winterberry (*Ilex verticillata*), Smooth Winterberry (*I. laevigata*), Inkberry (*I. glabra*), and the related Mountain-Holly (*Nemopanthus mucronatus*). The ericaceous shrubs include Sweet Pepperbush (*Clethra alnifolia*), Swamp Azalea (*Rhododendron viscosum*), Highbush Blueberries (*Vaccinium corymbosum* and *V. atrococcum*) and Swamp Sweetbells (*Leucothoe racemosa*). Poison-sumac (*Rhus vernix*) is frequently encountered.

The herb layer is dominated by Sphagnum mosses (*Sphagnum* spp.). Also-present may be Goldthread (*Coptis trifolia*), Northern White Violet (*Viola pallens*), and Virginia Chain fern (*Woodwardia virginica*). Several rare species are known from AWC swamps.

Atlantic White Cedar Swamps are found mostly along the Atlantic Coastal Plain from Maine to North Carolina and along the Gulf Coast in western Florida, Alabama, and Mississippi. Sporadic occurrences are found in north central Florida, Georgia, and South Carolina.