

Chesapeake Wildlife Heritage: Restoring Habitat

Project Summary: Chesapeake Wildlife Heritage offers five programs to help landowners achieve their wildlife habitat conservation goals in every phase of land acquisition and management.

Regional Setting: Chesapeake Bay is the nation's largest estuary. With a watershed of 64,000 square miles and a population of over 15 million, the bay's ecological health is directly tied to how landowners in the watershed manage their land. Chesapeake Wildlife Heritage assists landowners committed to long-term wildlife stewardship.

Land Trust Mission: Chesapeake Wildlife Heritage is dedicated to creating, restoring and protecting wildlife habitat and establishing a more sustainable agriculture through direct action, education and research, in partnership with public and private landowners.

Service Area: Maryland's Eastern Shore (Kent, Queen Anne's, Talbot, Caroline and Dorchester counties), western Maryland (Washington and Frederick counties) and central Virginia.

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Biodiversity Values

Chesapeake Bay is the largest estuary in the United States, about 195 miles long and four to 30 miles wide, with almost 12,000 miles of shoreline. However, Chesapeake Bay is now only a remnant of a once vibrant estuary that hosted healthy submerged aquatic vegetation beds and a strong seafood economy. Eutrophication from agricultural runoff is one of the principal culprits in the bay's decline.

The bay provides food, water, cover and nesting or nursery areas to more than 3,000 migratory and resident wildlife species.



Photo: Canterbury Wetlands, a farm field after restoration. Photo courtesy of Chesapeake Wildlife Heritage.



A potentially highly productive estuary, Chesapeake Bay still provides an array of habitats from hardwood forests of the Appalachian Mountains to saltwater marshes. Rare and endangered species inhabiting the area include the Delmarva fox squirrel, bald eagle and peregrine falcon.

Conservation Strategy

Chesapeake Wildlife Heritage designs, builds and manages wildlife habitat to conserve biodiversity, meet private landowners' wildlife objectives and improve water quality of farm runoff. The organization takes an ecosystem approach to land and farm management. Site conditions are evaluated, including the amounts of cropland, woodland and wetland on a parcel. A soil analysis helps to determine what types of habitat may be restored in specific areas. Sensitive areas such as wetlands and habitat for endangered species are noted. Restoration plans maximize the use of government programs like the Conservation Reserve Enhancement Program.

Chesapeake Wildlife Heritage emphasizes cropland management because studies show that up to 70% of the nitrogen polluting Chesapeake Bay watersheds comes from poorly managed farms. Installing maximum-width buffers and restoring wetlands improves farm profits as well as wildlife habitat and water quality. Chesapeake Wildlife Heritage believes that water quality will improve with land protection, as well as wildlife habitat restoration.

Projects and Funding

Chesapeake Wildlife Heritage offers a wide spectrum of stewardship management advice, consultation and services. By combining services from two of its programs, Landowner Services and Sustainable Agriculture, its innovative approach has achieved significant results in land management and protection.



Photo: The Delmarva fox squirrel, a federally endangered species, was once found throughout the Chesapeake watershed. It is now restricted to five counties on the eastern shore of Maryland. Photo courtesy of USFWS.

Since 1999, Chesapeake Wildlife Heritage has purchased five Maryland farms and five easements on other farms, utilizing federal and state acquisition funds, including North American Wetland Conservation Act and State of Maryland Open Space funding. The purpose of these purchases has been to restore and protect wildlife habitat prior to reselling the property to a conservation buyer or delivering the easement to the state funding agency. Immediately after purchasing a property, Chesapeake Wildlife Heritage drafts a wildlife management plan, delineating active agricultural areas, wetland restoration needs, grassland meadows suitable for upland wildlife use and forest restoration areas.

A recent purchase, in partnership with the Biophilia Foundation, was a 275-acre farm on the headwaters of the Chester River. The wildlife management plan dedicated 90 acres to active agriculture, restored 30 acres of wetlands, created 20 acres of warm season grass meadows and replanted 20 acres of trees. The parcel's 115 acres of woodlands are now subject to a forest management plan.

Staff and consultants do the restoration work using funding from the Conservation Reserve Enhancement Program and/or the Conservation Reserve Program. Upon completion of the restoration work, a conservation easement is placed on the property and the parcel is made available for sale. The easement limits development and prohibits conversion of the newly restored habitat to agriculture. To date, Chesapeake Wildlife Heritage has restored 2,900 acres of grasslands, 1,500 acres of wetlands and 800 acres of woodlands.

Anatomy of a Wetland Restoration

In 2003, Chesapeake Wildlife Heritage partnered with the Pickering Creek Audubon Center (Easton, MD) to restore a 27-acre farm field on the sanctuary. Funding for the project came from a number of sources including the Conservation Reserve Enhancement Program.

Design: County soil maps and on-site borings were used to locate hydric soils, which indicate drained wetlands well-suited to

restoration. Laser-level measurements were used to ensure proper seasonal water levels. A shallow seasonal wetland was designed with an impoundment to typically flood during three seasons. Seasonal wetlands, by partially drying in the summer, encourage plant growth and provide cover for nesting wildlife and food for migrating birds. The design included year-round flooded areas to provide habitat for amphibians and other aquatic species. Higher-elevation hummocks provide year-round dry land for wildlife. This patchwork of islands and pools provides diverse vegetation and nesting sites for birds.

Construction: Topsoil was removed from portions of the field and stockpiled. The impoundment was constructed by enclosing the entire field with a two-foot berm of clay subsoil. Subsoil was excavated more deeply in a few areas to provide year-round pools. The stockpiled topsoil was spread back over the wetland area to reestablish the original seed bank and to hold an initial planting of native species. A three-acre wet meadow adjoining the wetland was planted with warm season grasses, creating improved habitat for grassland species.

Results: The restored wetland offers mudflats for shorebirds and areas vegetated with wild millet, fall panicum and other plants to feed migrating and wintering birds. A PVC-pipe weir structure lets water levels fluctuate, allowing the wetland to be managed for a diversity of species.

Looking Ahead

Chesapeake Wildlife Heritage plans to continue using the Conservation Reserve and Conservation Reserve Enhancement Programs to restore habitat and improve water quality throughout the Chesapeake Bay watershed. The organization hopes to engage more private landowners in wildlife management and restoration by emphasizing species of interest to many landowners, such as waterfowl.

For More Information

Conservation Reserve Program (Farm Service Agency): www.fsa.usda.gov/dafp/cepd/crp.htm

Conservation Reserve Enhancement Program (Farm Service Agency): www.fsa.usda.gov/dafp/cepd/crep.htm

North American Wetland Conservation Act Grants (U.S. Fish and Wildlife Service): www.fws.gov/birdhabitat/Grants/NAWCA