



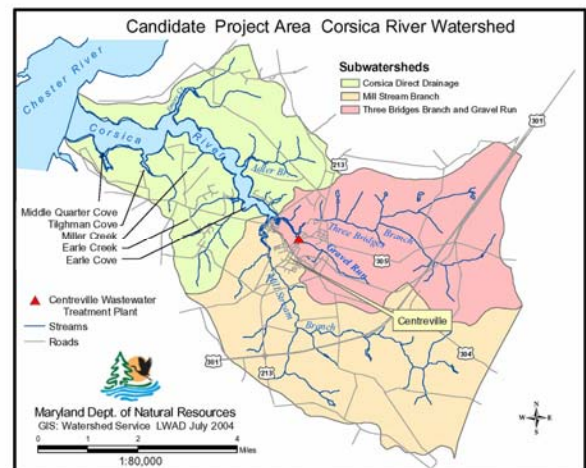
Maryland's Corsica River Watershed

# MARYLAND'S CORSICA RIVER WATERSHED

## SNAPSHOT

At the end of 2003, representatives from Centreville, a small town situated near the headwaters of the Corsica River, teamed with a group of dedicated citizens, community groups, and technical staff from the Maryland Department of Natural Resources (DNR) to develop a Watershed Restoration Action Strategy (WRAS). This plan would outline the steps required to restore and protect the Corsica River. The stakeholders were concerned about pollutants from Centreville's urban nonpoint sources, Centreville's wastewater treatment plant, and the large surrounding agricultural lands. Located on the eastern shore of the Chesapeake Bay the Corsica River is a small tributary that

leads to the Chester River and then into the Chesapeake Bay. The Corsica was identified as impaired by sediment (1996), nutrients (1996), polychlorinated biphenyls (2002), fecal coliform (1996-restricted shellfish areas), and impacts to biological communities (2002 & 2004-nontidal areas) and was recorded on the states impaired waters (303(d)) list. In September of 2005, a nutrient-driven algae bloom formed and ultimately resulted in a die-off of an estimated 50,000 fish.



The concerted federal, state and local partnership fight to bring this river back to an acceptable state and the techniques used to do this could set an example for future projects throughout the state of Maryland and across the country. Funding from the U.S. Environmental Protection Agency, the U.S. Department of Agriculture and the State of Maryland is providing the foundation to begin the restoration efforts.



Irrigator

Source: Talk from MD-DNR



Fish Kill in the Corsica

## PROBLEM

Over the years, untreated runoff from farms as well as residential properties has been a major factor in degrading the watershed. In this agricultural community, excessive nutrients from over fertilization of fields has led to unacceptable levels of nitrogen and phosphorus running into the Corsica.

## PROJECT HIGHLIGHTS

In 2003, Maryland DNR spearheaded the development of a WRAS. The WRAS identified definite actions, which, if implemented, would restore the Corsica and address the Total Maximum Daily Load (TMDL) allocations. These strategies include:

- Establish and maintain 4000 acres of cover crops and 2000 acres of small grain enhancements to prevent nutrient runoff during storm water events and absorb nutrients in the growth process.
- Manage stormwater on 300 acres of urban lands.
- Establish 100 acres of Conservation Reserve Enhancement Program buffers.

Source: Talk from MD-DNR

- Implement 50 acres of Horse Pasture Management, a technique used to limit nutrient runoff to nearby streams.
- Retrofit 30 private septic systems with denitrification technology, a process used to remove nitrogen and harmful nutrients from the systems.
- Establish 200 acres of forested buffers on non-agricultural land. The buffers consist of trees that hold the soil in place and through natural growth absorb nutrients that would otherwise run off into nearby streams, and eventually into the Corsica.
- Restore 50 acres of wetlands and two miles of stream channel. The wetlands provide a natural filter system keeping nutrients from the Corsica while restoration of stream channel would enhance the flow and prevent nutrients from building up.
- Restore 10 acres of submerged aquatic vegetation, grasses that grow underwater and provide habitat for breeding fish and crabs, and 20 acres of oyster beds
- Monitor the effectiveness of best management practices (BMP's) and water quality parameters in the Corsica River
- Upgrade and maintain Centreville Sewage treatment plant with enhanced nutrient management.

The strategy identified additional code and regulatory changes that the Town of Centreville and Queen Anne's County could implement to protect the watershed in the future.



Source: Talk from MD-DNR

Example of a Constructed Wetland



## FUNDING

Almost \$800,000 from Maryland Department of the Environment (MDE) Nonpoint Source Program (FFY 05 EPA S319h) was directed to support this project. Support also came from Maryland's Bay Restoration Fund, the Oyster Recovery partnership, the National Fish and Wildlife Foundation and the Chesapeake Bay Trust. The funding will primarily be used to support the local capacity needed for project implementation and to measure water quality and habitat improvements. MDE will also monitor in-the-ground implementation and provide stormwater management guidance, participate in the working group, and generally help support the effort. Because water quality improvements may take years to show up in the river, monitoring projects are designed to catch the "early signal" by monitoring the groundwater.



Source: Talk from MD-DNR

Rain Barrels

## THE BEST WATERSHED PLAN

In a comprehensive review of watershed plans submitted to them, EPA said that, "The Corsica River Watershed on the Eastern Shore of Maryland may be the best watershed-based plan submitted to EPA for review. The Corsica has a relatively large watershed area (approximately 40 square miles) and has benefited from substantial financial resources, impressive community activism, and public visibility in the form of media coverage. The plan has an impressive format where each recommended management measure was discussed in the context of evaluation criteria, milestones, implementation needs, and expected load reductions. It was a simple management strategy to follow and should be relatively straightforward (though costly) to implement. An especially innovative component of this plan was an extensive G.I.S database used to inventory pollution sources, track progress, evaluate needs, and suggest plan alterations".

## RESULTS

Although early in the process, there are already achievements to report. The following table shows progress towards current restoration goals.



Source: Talk from MD-DNR

Rain Garden

Goal	Percent of Goal Achieved
10 acres of oyster bar	56%
200 acres of forested riparian buffer	6%
6000 acres cover crop	11%



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## FUTURE

The hope for this \$19.4 million dollar project is to accomplish all of the actions needed to restore the Corsica's water quality within ten years. The ultimate goal is to remove the Corsica from the EPA's list of impaired waters.

The success lies in the cooperative spirit that has enveloped this project and everyone in the watershed; "The Corsica Project is a real-world case study. If the comprehensive approach proves to be successful, it could serve as a model for other parts of the state," said MDE secretary Kendl P. Philbrick.

## PARTNERS AND FUNDING

Chesapeake Bay Trust  
National Fish & Wildlife Foundation  
National Oceanic & Atmospheric Administration  
Maryland Bay Restoration Fund

Oyster Recovery Partnership  
Maryland Department of Natural Resources  
Maryland Coastal Zone Management Program  
U.S. Environmental Protection Agency

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