

Mattawoman Creek and its Watershed

Fact Sheet

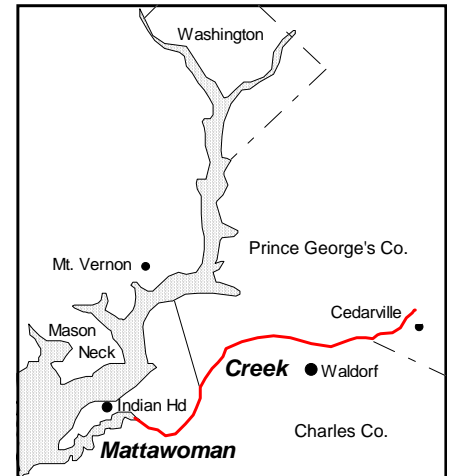


Mattawoman Creek, named “Where one goes pleasantly” by Native Americans, stands out as one of the crown jewels of the Chesapeake Bay. So vibrant are its living resources that a study by Maryland’s Department of Natural Resources (DNR) concluded:

- ☆ *“Mattawoman represents as near to ideal conditions as can be found in the northern Chesapeake Bay, perhaps unattainable in the other systems, and should be protected from overdevelopment.”*

But, from DNR’s assessment for the national Clean Water Action Plan, we learn:

- ☆ *Of Maryland’s 138 comparably sized watersheds, only 12, including Mattawoman, were found to be both of very high quality and at very high risk for impairment.*



Any aquatic resource mirrors the state of its watershed and, by far, forest is the best land-use for aquatic quality. Unfortunately, Mattawoman’s mostly forested watershed is proposed for extreme urbanization by county officials, who control land-use decisions. At the present time, neither Charles nor Prince George’s County appear willing to take the steps necessary to preserve what we already have. And state permitting decisions are too often counterproductive. As a result, the future quality of Mattawoman is in grave doubt.

What is at risk?

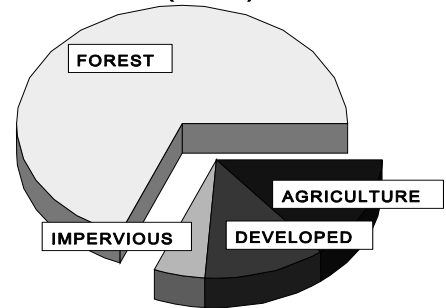
- The most productive spawning and nursery ground for **migratory fish** in the Chesapeake, with a concentration of anadromous* juveniles *over 40 times* that of other estuaries studied by DNR. (At a time when anadromous fish on the eastern seaboard are but a few percent of historical levels.)
- **Largemouth bass** in the tidal Potomac system support a \$25 million fishery. According to the National Park Service, Mattawoman is one of “the most important waterway habitats for the proliferation of the largemouth bass in the entire Potomac River Estuary.”
- The **healthiest fish food web** of the Chesapeake estuaries studied by DNR.
- Maryland’s largest breeding **wood duck** population; an important **black duck** wintering ground; nesting **bald eagles**.
- One of only three Maryland sites with a wild population of the beautiful and **rare Native Lotus**.
- **Remarkable biodiversity and habitats:**
 - 4 species of freshwater **mussels**;
 - 54 species of **fish**;
 - extensive **tidal freshwater marshes** of outstanding quality;
 - extensive **palustrine forest** (bottomland forest with canopied wetlands);
 - tributary headwaters in increasingly **rare magnolia bogs**.

*See glossary at bottom of second page

Source..... Forested wetland, Brandywine-Cedarville, Prince George's Co.
Mouth..... Tidal Potomac River, Indian Head, Charles Co.
Fluvial* length..... 20 miles.
Tidal length..... 7 miles.
Salinity..... Freshwater throughout.
Watershed area..... ~95 square miles.
Mean flow..... ~30 cubic feet per second.

Land Use

(1990)



% watershed Charles Co..... ~75%
% watershed Prince George's Co... ~25%

Watershed topology

Geophysical province..... Inner coastal plain.
Soils..... Unconsolidated; extremely erodible soils are common.
Elevation range..... Several feet to 220 feet above sea level.
Topology..... Highly incised; steep, erodible

Best watershed land-use for aquatic quality-----	Forest
Percent of Mattawoman's watershed as forest:-----	67%
Fraction of forest to be lost by 2020 (conservative DNR estimate)-----	~Half
Fraction of watershed as impervious surface* (at present)-----	5-9% (estimates vary)
Fraction that significantly degrades aquatic ecosystems-----	~10%
Fraction predicted for 2020 (Charles Co. Comprehensive Plan)-----	20%
Fraction for the Anacostia R., one of the most degraded in the eastern U.S.--	25-33% (estimates vary)

- Stressors:**
- Frequent low flow, occasionally dry stream bed in portions of fluvial section.
 - Changes in hydrological regime from forest loss and increased impervious surface:
 - More rapid runoff, floods, unnatural erosion, less base flow.*
 - Sedimentation from construction and increased run-off.
 - Urbanization-induced loadings of metals, nutrients, pesticides, oil, salt, other pollutants.

Prognosis: Without urgent and serious improvements in land-use practices, a marked loss of aquatic and terrestrial habitat and biodiversity. Loss of resident fish, mussels, benthic invertebrates,* interior-dwelling and water-reliant birds, and native plants. Dramatic reduction of anadromous fish* in one of the Chesapeake's last best places (anadromous fish are at a few percent of historical levels). Impacts to Maryland's \$25 million Potomac bass fishery.

*Glossary:

- Anadromous fish** live in the sea but spawn in freshwater. Examples: river herring, American shad.
- Base flow:** stream flow between storms, supplied by rainwater stored in soils.
- Benthic** invertebrates (e.g. insect larvae) dwell on the stream bottom and are indicators of aquatic health.
- Fluvial:** non-tidal, free flowing.
- Impervious surface**, such as roofs, roads and parking lots, prevents rain infiltration. Thus, rainwater that would be stored in soils and slowly released into streams is, instead, funneled as scouring stormwater surges into waterways.

Friends of Mattawoman Creek

&

Southern Maryland Sierra Club