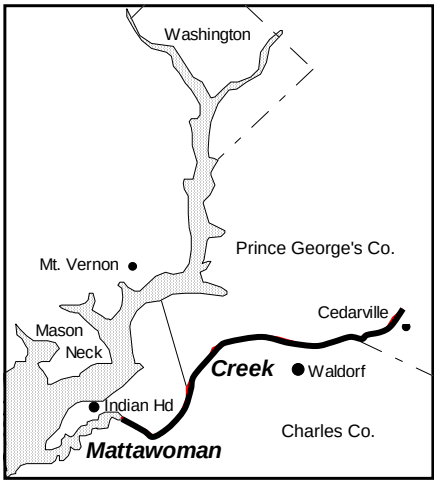
Mattawoman Creek and its Watershed

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 17, including Mattawoman, were found to be both of very high quality and at very high risk for impairment.***

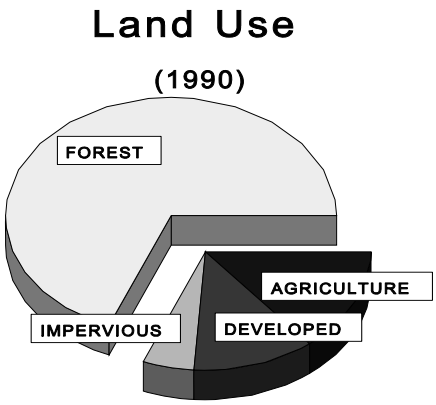
Any aquatic resource mirrors the state of its watershed and, by far, forest is the best land-use for aquatic quality. Unfortunately, Mattawoman's mostly forested watershed is proposed for extreme urbanization by county officials, who control land-use decisions. At the present time, neither Charles nor 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 best, most productive tributary to the Chesapeake Bay,"** say state fisheries biologists.
- 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 $30 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**, unusually large concentrations of **egrets**.
- One of only three Maryland sites with a wild population of the beautiful **American Lotus**.
- **Remarkable biodiversity and habitats:**
  4 species of freshwater **mussels**;
  54 species of **fish**—in the top 6% of all comparably sized Maryland watersheds
  extensive **tidal freshwater marshes** of outstanding quality;
  extensive **palustrine forest** (bottomland forest with canopied wetlands);
  tributary headwaters in increasingly **rare magnolia bogs;**
  the most diverse single site in the state for **amphibian** populations.

*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.



% 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)---------- ~10% (estimates vary)
Fraction that significantly degrades aquatic ecosystems---------- ~10%
Fraction predicted at buildout (Army Corps Watershed Plan, 2003)---------- ~23%
Fraction for which healthy living resources are no longer supported---------- 25%

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: Around 2006, Mattawoman became ill from urbanization of its watershed: the number of fish and fish species in the estuary began declining alarmingly. Anadromous fish* stopped spawning upstream. Loss of resident fish, mussels, benthic invertebrates,* interior-dwelling and water-reliant birds, and native plants is in process. Impacts to Maryland's $30 million Potomac bass fishery are possible. To improve the prognosis, Charles County must act to curb sprawl development, a possibility as it revamps its Comprehensive Plan (2011-2012), and permitting agencies must stop looking the other way.

***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.

The Mattawoman Watershed Society
Dedicated to preserving and protecting Mattawoman Creek for the enjoyment of all.
www.mattawomanwatershed.org