



2016

Mispillion Watershed



Wetland Health Report Card

About the Watershed

The Mispillion and Cedar Creek watersheds straddle southeastern Kent County and northeastern Sussex County, Delaware and cover 128 square miles of land with all of its waters draining eastward into the Delaware Bay.

The overall landscape shows the tell-tale signs of a rich history where gristmills, sawmills and shipbuilding once flourished. Today the scenery is dominated by agricultural fields, wetlands, and developments.

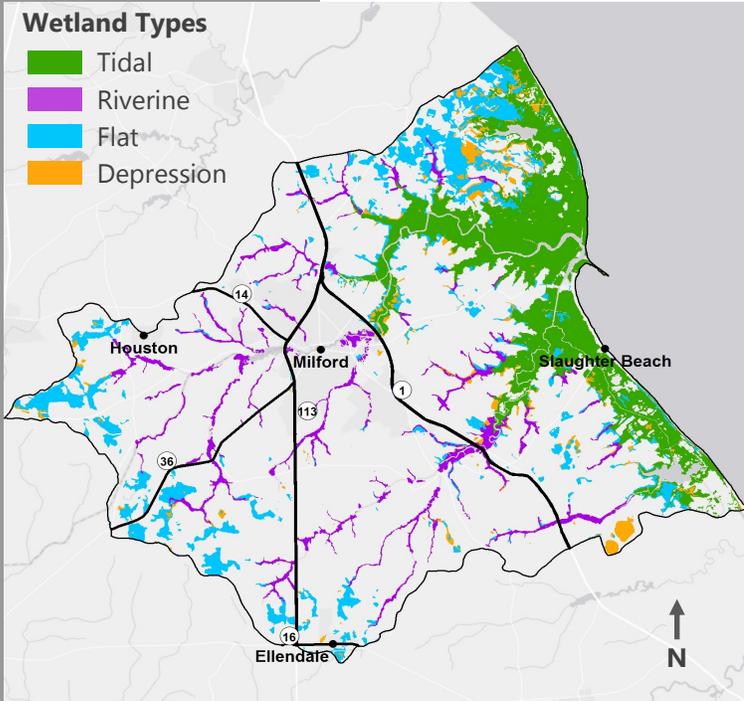
Wetlands in the Mispillion watershed make-up approximately one-quarter of the land, and are a great resource for protecting Delaware, but unfortunately, they are not able to function to their fullest potential in this watershed.

Mispillion watershed wetlands are in fair condition, receiving a C as its overall grade. It has lost approximately 19% of its original wetlands since the early 1700s, mainly due to conversion of land to agricultural fields or development.

In this report you will find a summary of the health of wetlands in the Mispillion and Cedar Creek watersheds and suggestions to help improve them.



How Are Wetlands Graded?



There are many different types of wetlands in Delaware, and to accurately grade them, they are broken into two categories based on how they receive their water supply: tidal wetlands and non-tidal wetlands.

Tidal wetlands have water moving in and out of them in cycles based on the moon's gravitational pull (the tides), and use the Mid-Atlantic Tidal Wetland Rapid Assessment Method (MidTRAM) to grade them. Non-tidal wetlands include riverine, flat and depression wetlands and receive their water from rain, snow and underground springs. The Delaware Rapid Assessment Procedure (DERAP) is used to grade them.

In both methods, biologists look for and tally living and non-living stressors (also called environmental indicators) that keep a wetland from functioning properly. Throughout the Mispillion watershed, a total of 113 sites were graded in 2012.

Environmental Indicators of Wetland Health.



Evidence of forest harvesting in a wetland.

Habitat

Habitat indicators that cause a wetland's grade to decline include: forest harvesting, mowing, farming or grazing of the land, invasive species and roads through the wetland.

The most common stressors to habitat in this watershed were forest harvesting and the presence of invasive plant species such as: common reed, narrowleaf cattail, Japanese honeysuckle or multiflora rose.



Aerial view of ditching to remove water in a wetland.

Hydrology

Hydrology indicators that cause a wetland's grade to decline include: ditching, stream alterations, dams, stormwater inputs, filling or excavations and flooding.

The most common stressors to hydrology in this watershed were the excavation of wetlands, filling of wetlands, and ditching of wetlands to remove water.

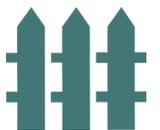


In this aerial view, the wetland assessment area is represented by the green circle, and the buffer is represented by the yellow circle.

Buffer

A buffer is a zone of land just outside of the wetland that has the ability to protect a wetland from disturbances occurring in the surrounding upland landscape.

The most common stressors in the buffer in this watershed were the presence of agriculture, dirt, gravel and paved roads, and nearby developments.

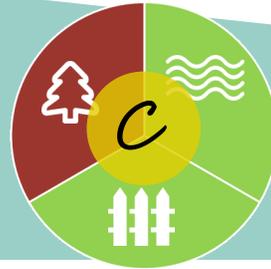


Grade by Wetland Type

Tidal Wetlands

Tidal Wetlands are regularly flooded by the tide and are some of the most productive ecosystems on earth supplying habitat for important fisheries. They provide coastal populations with critical services by reducing flooding and storm damage.

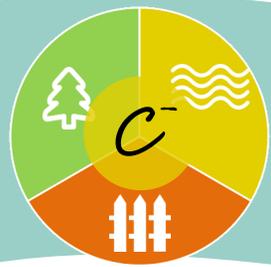
Common Problems: *Invasive plants & grid ditching*



Riverine Wetlands

Riverine Wetlands occur along streams or rivers and provide storage for floodwaters and groundwater. The water that moves into these wetlands is cleaned before it moves downstream. They form corridors of valuable wildlife habitat.

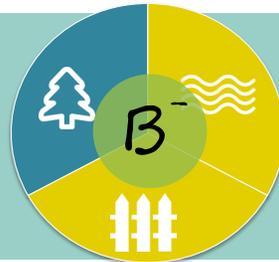
Common Problems: *Invasive plants & agriculture or lack of wide buffer between development and wetlands*



Flat Wetlands

Flat Wetlands are typically located at the upper reaches of the watershed. They are seasonally wet and often appear dry. They absorb precipitation and filter water slowly into surface and groundwater.

Common Problems: *Invasive plants & ditching*



Depression Wetlands

Depressions are isolated shallow pools of water that occur in low lying areas. They are seasonally wet and provide critical habitat for amphibians. *Depression wetlands only made up 7% of all wetland types in this watershed, therefore, we did not have enough information to assign them a grade for this watershed.*



Wetland Health Scale:



Did You Know?

Wetlands provide multiple services to us. They slow the flow of runoff, improve water quality, control erosion, provide fish and wildlife habitat, provide recreation, resupply groundwater, absorb floodwaters and protect coastal towns from storms.

The Mispillion Watershed's Wetlands Need Your Help

Consider supporting Delaware's valuable natural resource by..

Managing invasive species on your property by removing and replacing them with Delaware natives. Allow native plants to grow and thrive alongside wetlands, rivers and streams for cleaner water and erosion protection. For a list of Delaware's invasive plant species please visit: delawareinvasives.net

Adding nature based landscaping designs, green infrastructure, into your property to control water runoff and improve water quality. Consider installing rain gardens, rain barrels, living shorelines, planted buffers or vegetated swales in low lying areas. For more information on green infrastructure practices and possible funding sources, please visit de.gov/greeninfrastructureprimer.

Getting involved with the Delaware Bayshore Initiative. Extending from Pea Patch Island in New Castle County to the City of Lewes in Sussex County, the Delaware Bayshore Initiative builds on the region's reputation as a unique and beautiful natural resource and helps to improve the coastal community economy. Find out how to get involved by visiting de.gov/delawarebayshoreinitiative.

Supporting better wetland protection by contacting your local decision makers. Activities in non-tidal wetlands are not regulated by the State of Delaware, and every additional wetland filled or destroyed leads to less clean water, fewer wildlife habitats, and less flood protection for us all. de.gov/wetlandprotectionguidebook



More Information

Please visit de.gov/mispillionwatersheds to view the entire report or de.gov/delawarewetlands to learn more about the assessment methods.

Delaware Department of Natural Resources and Environmental Control
Division of Watershed Stewardship
de.gov/delawarewetlands
302-739-9939



Delaware Wetlands



<http://de.gov/delawarewetlands>