2017 Leipsic Watershed

Wetland Health Report Card

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About the Watershed

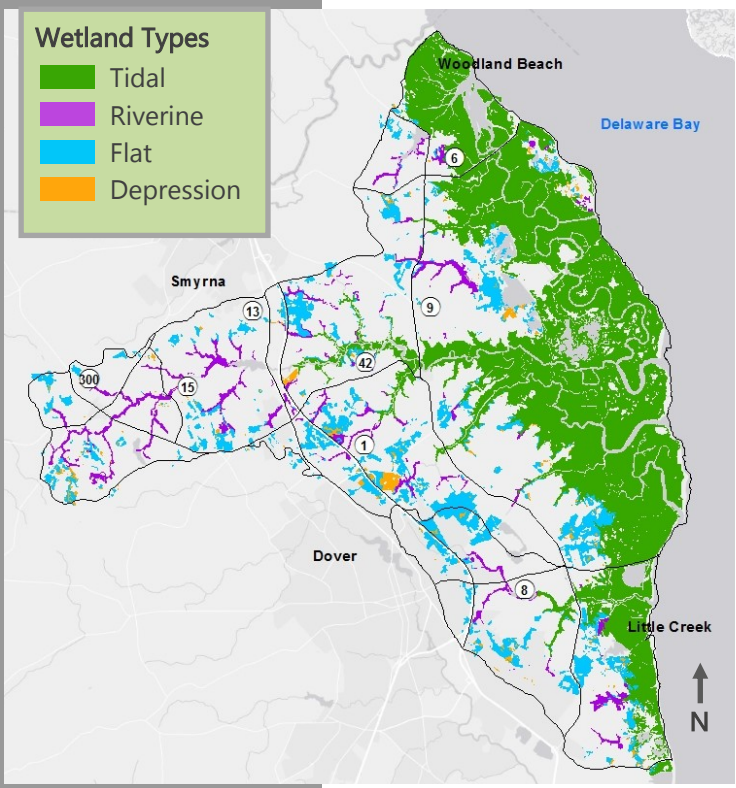
The Leipsic River watershed is composed of two sub-watersheds, Leipsic River and Little Creek, and encompasses 128 square miles. It is located in Kent County within the Delaware Bay and Estuary Basin, and all of its waters drain into the Delaware Bay.

Land cover in this watershed is dominated by wetlands and agriculture. Of these wetlands, nearly three-quarters are saltwater, and the other one quarter are freshwater. These wetlands are beneficial resources for both people and wildlife.

Unfortunately, approximately 21% of historic wetland area in this watershed has been lost to conversion to development and agriculture, and more recently, to conversion to open water along the coastline. Based on field data, wetlands in the Leipsic River watershed received an overall condition grade of C^+, indicating that these wetlands are not functioning at their full potential. This also indicates an opportunity for improvements through stewardship and restoration.

Fiddler crabs in a tidal marsh.

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 the Mid-Atlantic Tidal Wetland Rapid Assessment Method (MidTRAM) is used to grade them. Non-tidal wetlands include riverine, flat and depression wetlands, and they 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 Leipsic watershed, a total of 128 sites were assessed graded in 2013.

Environmental Indicators of Wetland Health.

The flower of an invasive honeysuckle plant.

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: Japanese stiltgrass, Japanese honeysuckle, common reed, multiflora rose, narrowleaf cattail, and barnyard grass.

A flat wetland that has been cleared, filled, and ditched.

Wetland Hydrology

Hydrology indicators that cause a wetlands' grade to decline include: ditching, stream alterations, dams, stormwater inputs, and filling or excavation.

The most common stressors to hydrology in this watershed were the excavation, filling, and ditching of wetlands to remove water. On the plus side, and unique to Leipsic's tidal wetlands, is a lack of man-made ditches.

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 human derived, and included ditches and stream channelization, developments, and presence of agriculture.

Grade by Wetland Type

Wetland Health Scale:

Excellent | Good | Fair | Poor | Very Poor

Tidal Wetlands—Brackish or Saltwater

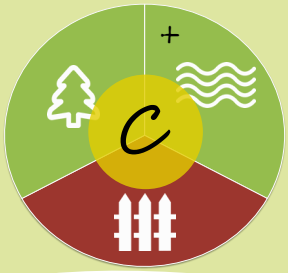
Tidal Wetlands are regularly flooded by the tide and are some of the most productive ecosystems on earth, supplying habitat for important fisheries. They provide protection for coastal populations by reducing flooding and storm damage.

Common Problems: Natural forces from erosion and sea level rise, invasive plants, and human-made roads and other barriers to landward migration

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.

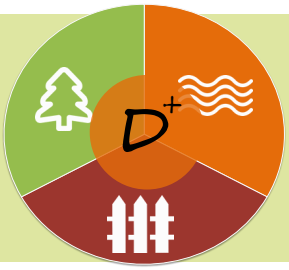
Common Problems: Invasive plants, stream alterations, fill or excavation, and agriculture and development in the buffer



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 groundwaters.

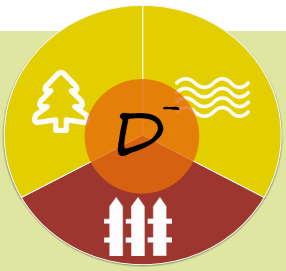
Common Problems: Invasive plants, forest harvesting, fill or excavation, ditching, and development in the buffer



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.

Common Problems: Invasive plants, high nutrient levels from agricultural run off, alterations to the soil surface, ditching, and roads/development in the buffer



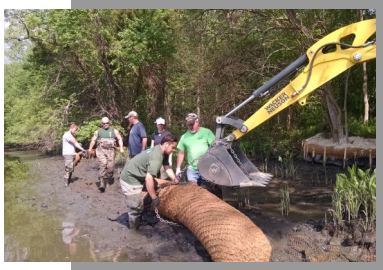
Did You Know?

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

The Leipsic Watershed's Wetlands Need Your Help

Consider supporting Delaware's valuable natural resources 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*



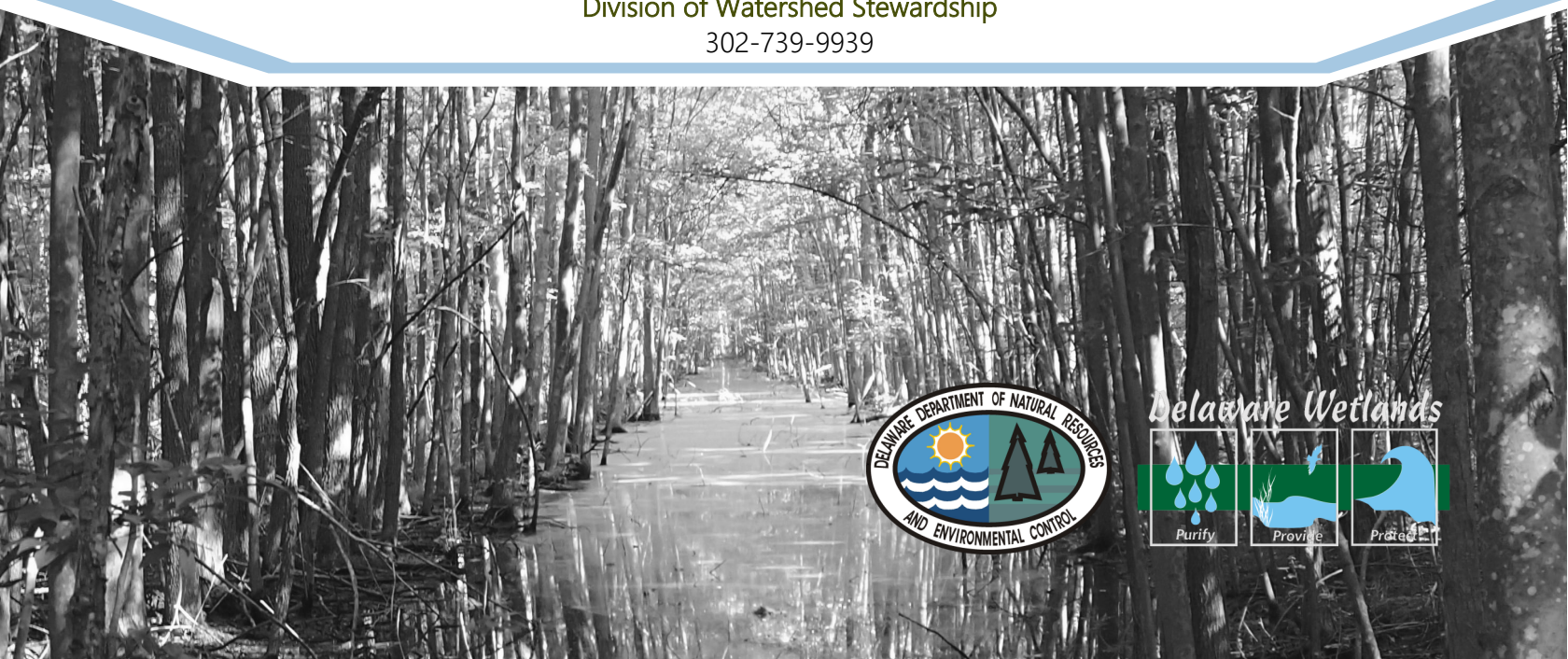
Adding nature-based landscaping designs and green infrastructure on your property to control erosion and water runoff and improve water quality. Consider installing rain gardens or rain barrels in your yard, living shorelines in tidal areas, or planting trees in open areas. For more information on these practices and possible funding sources, please visit *de.gov/greeninfrastructureprimer*.

Protecting and maintaining buffers around your wetlands. Buffers are natural planted strips along wetlands that can help wetlands stay in good health. They trap sediments and excess nutrients and filter pollutants before they reach wetlands. For more information about buffers, please visit *de.gov/buffers*.

Preserving or restoring wetlands on your land. Over half of the wetlands in this watershed are privately owned. This means we need your help in maintaining and improving our wetlands and the services they provide. To find out about your restoration options, please visit *de.gov/wetlandrestoration*.

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/leipsicwetlands* to view the entire report or *de.gov/delawarewetlands* to learn more about the assessment methods.

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Division of Watershed Stewardship
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