North Carolina Wetlands

Threats & Impacts

Wetlands are threatened by human and natural impacts that can change the amount and type of wetland, the habitat available for plants and animals, and the water quality.

POLLUTION

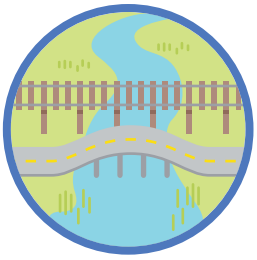
Litter and Dumping

Landfills

Storm Runoff

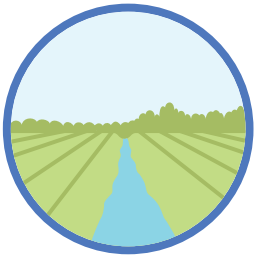
LAND CONVERSION

Commercial & Residential Development



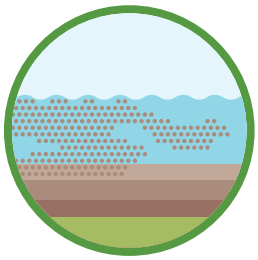
Bridges & Roads

Mining



Farming

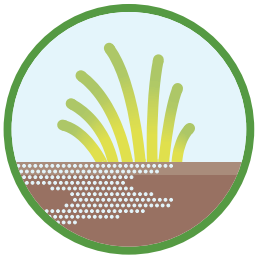
HABITAT CHANGES



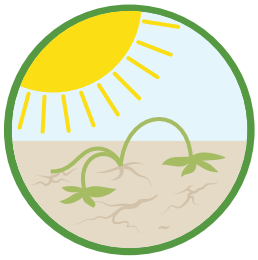
Sedimentation

Invasive Species

Logging



Saltwater Intrusion



Drought

Water Level Changes

Utility Maintenance

Produced by the NC Division of Water Resources with funding from the US Environmental Protection Agency.

North Carolina Wetlands

Threats & Impacts

Wetlands are threatened by human and natural impacts that can change the amount and type of wetland, the habitat available for plants and animals, and the water quality. North Carolina Department of Environmental Quality approved permits for impacts to 877 acres of wetlands from January 2012 – December 2017.

POLLUTION

Litter and Dumping

In 2017, NC DOT spent over $18.5 milliion collecting 4,387,230 pounds of trash along NC roadways. This trash often washes or floats into low-lying wetlands after heavy rain events. Besides being unattractive, this trash can be toxic to plants and animals or it can entangle animals.

Landfills

NC landfills must meet specific water quality requirements; however, these landfills, especially ones built using older techniques, may still impact nearby wetlands. A landfill may remove water from wetlands, increase or decrease the amount of water flowing into wetlands, or change the chemistry of water entering the wetlands.

Storm Runoff

When it rains, water runs across hard surfaces like parking lots and roofs and flows into wetlands. This stormwater may carry pollutants (e.g., fertilizer, gasoline, oils, sediment, litter). Wetlands help filter this stormwater to keep our water clean, but too many pollutants in the stormwater may over-whelm wetlands.

LAND CONVERSION

Commercial & Residential Development

Wetland soil is unstable, so wetlands are often filled (i.e. depositing enough sediment in a wetland to raise the soil surface above water level) or drained (digging ditches for water to flow out of wetlands) prior to construction. Both can change the plants and animals that are able to survive in the new conditions.

Bridges & Roads

We need bridges, roads, and railways to travel, but many have unfortunately been built right through wetlands. Wetlands with bridges and roads through them are changed by shading, filling, stormwater pollution, and noise.

Mining

Mining in areas near wetlands can change the amount of water in the wetlands. Metals and pollutants may also leach through the soil into wetlands, becoming concentrated in the wetland soil. North Carolina wetlands have been mined for peat (dark soil filled with dead plant material that is used for growing plants) and phosphate.

Farming

Wetlands have very good soil for growing plants, which is why many of them have been used as farmland. Converting wetlands to farmland normally means removing the wetland plants, digging ditches to drain extra water from the site, and tilling or rotating the soil to mix in the rich dead plant material.

HABITAT CHANGES

Sedimentation

Wetland water sources (e.g., tidal, stream flow, surface water, stormwater) will carry varying amounts of sediments to wetlands depending on the surrounding land use, volume of water, flow energy, holding times, etc. If too much sediment lands in a wetland, it can cover up or suffocate the plants and animals living there.

Logging

Logging is the removal of trees (timber), which are then used to make a variety of products like paper, resins, wood planks, and wood pellets. Removing trees from a wetland also removes habitat for animals and changes hydrology, which can affect which plants are able to live on the site.

Drought

Low rain levels during extremely dry (drought) conditions can decrease, and sometimes completely remove, the amount of water on the surface and/or in the soils of wetlands. The lack of water can cause changes in soil chemistry and affect the plants and animals that live there.

Utility Maintenance

Power lines and water lines often cross through wetlands, which can alter the movement of water in these wetlands. Construction and maintenance of these lines also involves cutting of trees and shrubs, converting forested wetlands from swamps to marshes, which removes or breaks up habitat necessary for animals.

Invasive Species

Invasive species are non-native species that grow aggressively and displace other species. Invasive plants decrease biodiversity and degrade habitat by outcompeting native plants that wetland animals rely on for food and shelter. Invasive animals, like nutria, alter the overall ecology of wetlands by reproducing quickly and eating anything in sight!

Saltwater Intrusion

An increase in the amount of seawater, an increase in tidal range, or a decrease in freshwater inputs can all increase salinity in coastal brackish and freshwater wetlands. The increase in salinity alters water chemistry and causes certain plants to die. Depending on the rate of change, the freshwater and brackish wetlands may transition to saltwater marshes or be inhabited by invasive species.

Water Level Changes

A change in the amount of water in a wetland can alter the plant community. Dams (beaver or man-made) can increase flooding in an area, which may cause some trees to die, changing a forested wetland into a marsh. Filling in or ditching around a wetland can decrease the amount of water available, changing the types of plants and animals that can live there as well.

NC Wetlands

www.ncwetlands.org

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