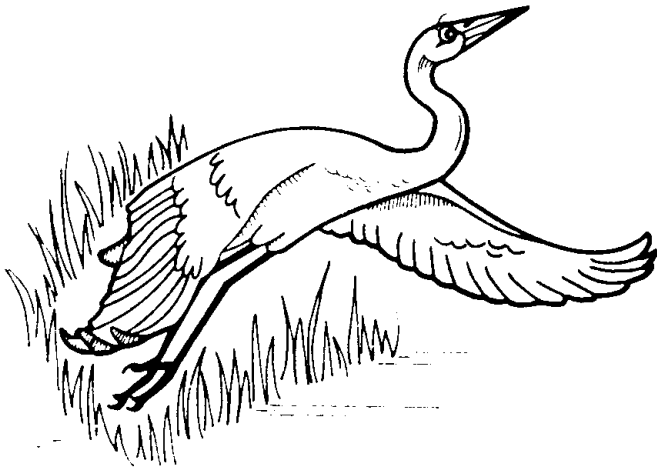




Fact Sheet

Commonwealth of Pennsylvania • Department of Environmental Protection

WETLANDS: FUNCTIONS AT THE JUNCTIONS



A Simple Definition

Wetlands are junctions on the landscape where living terrain meets water that originated in the sky or that was welled-up from the heart of the earth. These junctions provide many benefits for the human community. Some of the values of wetlands are principally environmental, while others aid the human family in a social and economic way.

Ecological Functions of Wetlands

Wildlife Habitat

An important function of wetlands is habitat for wildlife. The waters of wetlands are teeming with many microscopic organisms. Insects abound, including damselflies, dragonflies, water striders and boatmen. Invertebrates such as clams and crayfish live there too. These creatures form the basis of the food pyramid for the many fishes, reptiles and amphibians, birds and mammals that flourish in wetland habitats.

Wetlands also are spawning and nursery grounds for fish. In fact, most freshwater fish feed in wetlands or upon food produced in wetlands. Pennsylvania wetland habitat statistics are impressive. Of the 38 species of amphibians, 32 (84 percent) find a home in wetlands the majority of the time. Twenty-five percent (11 of the 41 species) of all reptiles spend nearly 99 percent of their life in wetlands. Approximately 122 species of shore and wading birds, waterfowl and some songbirds perform most of their activities in, on or around water.

Large animals associated with wetlands in the Commonwealth include muskrat, otter and beaver. As pressure for land development reduces upland habitat, deer and bear also find refuge in wetlands.

We extract useful products from some wetlands including blueberries, cranberries, finfish, shellfish and timber. We also share wetland wildlife habitat when we canoe, birdwatch, photograph, hike, fish and hunt in them.

Threatened and Endangered Species

Pennsylvania has officially listed more than 500 plants in special concern categories under authority of the Wild Resources Conservation Act (1982). Many of these species make their living in our wetlands. Similarly, animals continue to receive protection, too. Two categories are "Endangered" and "Threatened". Endangered species are those plants or animals in imminent danger of extinction. Threatened species are those that soon may become endangered.

Invertebrates of special concern include numerous dragonflies and butterflies. Five species of turtles, two of frogs, three of salamanders and four of fish, are just a few of the many endangered or threatened animals living in our wetlands. Eight of the 13 species of birds (62 percent) listed as threatened or endangered are associated with wet habitats. The river otter, also a wetland inhabitant, is listed as vulnerable, indicating it may become threatened if its habitat is lost.

Nutrient Cycling

Wetland plants absorb nutrients such as nitrogen and phosphorus, and shuttle them through the food web. Additionally, by extracting these substances from the water, wetland vegetation keeps concentrations from reaching toxic levels. These plants also generate life-giving oxygen through capture of the sun's radiant energy in the process known as photosynthesis.

Socio-Economic Benefits

Land Protection

From a socioeconomic view, wetlands function to protect land and property from flood and storm damage. The rise and fall of water levels along rivers with neighboring wetlands is remarkably more gradual than where wetlands have been destroyed. Water-purifying and damage-reducing values of wetlands save us untold dollars annually. In addition, wetlands control erosion, and store water.

Pollution Control

Vegetation slows down or temporarily stops the movement of water as it travels through our wetlands. This causes soil (silt), carried in the water from erosion and runoff, to settle out. In the Commonwealth, the number one water pollutant, by volume, is sediment! Pollutants, toxins, metals and other poisonous substances are also caught in the wetland silt. Although this is only a temporary solution, it prevents the movement of these substances into larger bodies of water. In fact, wetlands are being "created" by environmental engineers to capture acid mine drainage. They function to filter and buffer metal laden acid water, altering its chemistry (pH) and removing toxins such as iron and aluminum.

However, despite their power to thwart pollutants, wetlands can be degraded or destroyed by too frequent or intense overloading of foreign substances.

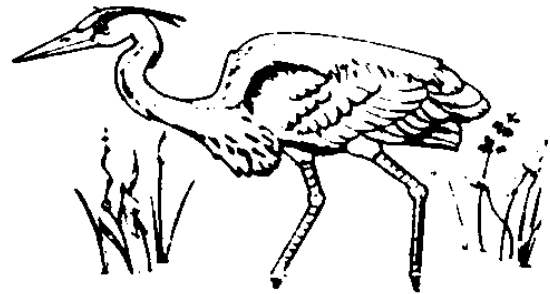
Education and Aesthetics

Wetlands are valuable for the beauty they bestow to the appreciative eye. They also provide key opportunities for studying the environment.

Indebted to Wetlands

We owe a great debt to our wetlands for performing many beneficial tasks for us.

The loss of wetlands denies the human community of these benefits. Natural drainage and sedimentation characteristics are altered, a natural system of water filtration is lost, plants and animals disappear, and the overall environment is degraded.



For more information, please visit the PA PowerPort at www.state.pa.us, Keyword: "DEP Wetlands,"

or Contact:

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