

URBAN WETLANDS: GENEROUSLY GIFTING OUR CITIES

Wetland Trends in the Urban Environment

Urbanized areas interact with the natural features of the environment in many significant ways. Urban construction materials such as concrete, asphalt, brick, stone, and steel replace soil and vegetation in the modern urban landscape. Terrain and plant cover are often altered as a result of construction and land development. Features of the landscape that are often impacted are wet habitats. Urban wetlands are places within city limits where water and soils mingle. They range from remnants of creeks or ponds that once existed on sites where buildings now stand to drainage ditches resulting from inadequately planned or engineered development. It is important to be aware of wetland trends resulting from development and road construction.

Cattail and Common Reed Gullies: Artificial, Accidental Wetlands

In the past, a popular urban trend was to fill wetlands to create solid ground for development. Another has been the unintentional creation of “accidental” wetlands. This is often the result of increased stormwater runoff and snow melt collecting in depressions on the surface-scape.

Many soil types function as sponges or natural tubs, having the ability to absorb or retain large volumes of water after storm events. Gradually, this water is released in a slow, steady way. Vegetation dramatically increases the surface area of the landscape for water retention. Modern urban landscapes are slick and non-absorbent. Development, therefore, increases the rate and volume of surface water runoff.

Gullies, swales, and low lying areas that receive this water, and are undrained or poorly drained, may develop into inadvertent wetlands.

Benefits of Wetland Gullies

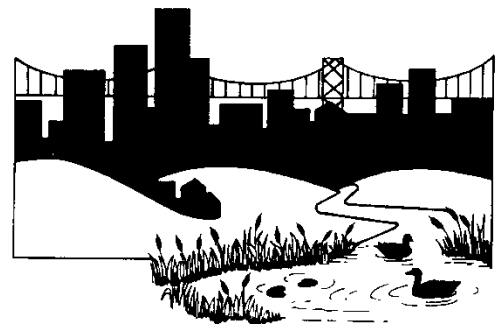
Artificial, newly formed wetlands may not look important, but they provide several major benefits.

Flood Control

Unintentional wetlands buffer the surges of water after rainfall in cities, helping to minimize flooding.

“Runaway” Pollutants

Urban runoff is a major contributor to nonpoint source pollution. Pollutants “runaway” from their source in stormwater. Studies show that typical city runoff carries iron, lead and copper, as well as other heavy metals and toxins. Also carried are industrial chemicals and nutrients including petroleum-based hydrocarbons, nitrogen and phosphorus. These end up in the newly created wetlands. Urban cattail gullies filter and purify the water that ultimately goes into creeks, streams and the ocean. Good places to find them in urban centers are near “concrete jungles” where roadways overlap.



Loss of Wetlands in the City

Many cities in Pennsylvania were originally settled along creeks, rivers, or near sources of water for consumption and commerce. Unfortunately, wetlands associated with these waters were sometimes lost through stream channelization and embankment.

Urban Parks

Wetlands have been filled, drained and their quality degraded in the processes of development. However, in some instances, city parks or scenic drives were established to preserve urban wetlands. Today, we recognize the benefits of these wetlands to be greater than purely aesthetic or recreational.

Places of Discovery

Cities have traditionally been viewed as uninspiring for the discovery of the natural world. However, urban wetlands offer an educational aspect. Ecology, biology and geology are just a few of the disciplines that can be studied in wetlands. Here students can encounter unique forms of plant and animal life.

Urban Wildlife

Urban wetlands play a vital role for wildlife and are home to many fascinating plants and animals. Animals seek shelter and food in these remaining natural areas within city borders.

Social Benefits

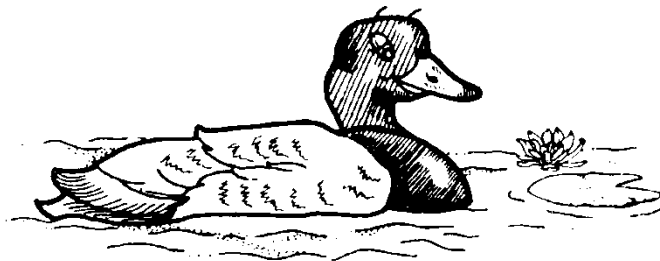
Like cattail gullies, urban wetlands, intentionally preserved for future generations, also function to control flooding and purify water of contaminants. When they remain vegetated, urban wetlands can stabilize land, prevent erosion and improve water quality.

Water Quality Treatment

Since wetlands are excellent interceptors of waste products in water; wetlands are being constructed by forward-thinking, environmentally-sensitive city planners. By directing stormwater and previously treated sewage effluent into them, artificially manufactured wetlands are used as additional treatment systems. Once considered formidable rivals or opponents in conflict with urbanization, functioning wetlands are now incorporated in modern, urban plans for the many benefits they generously provide cities.

How About You?

Does your city have any public or private recreational parks or scenic drives? They are great places to explore for wetlands. Take a few moments from your busy schedule to listen to the birds twittering from the brush. Wetlands are tranquil respites from city stressors. They buffer urban noise, generate soothing sounds, refresh city air, clean urban water, and produce gifts for our cities beyond measure.



For more information, visit www.dep.state.pa.us, keyword: Wetlands or contact:

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