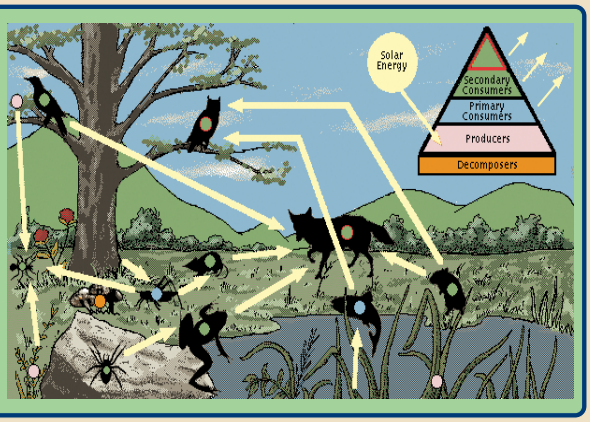
Riparian Corridors in the Cuyahoga River Watershed

CUYAHOGA AMERICAN HERITAGE RIVER

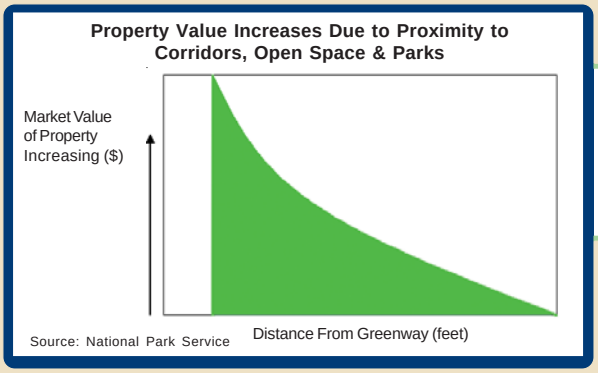
Natural riparian corridors are vegetated lands along rivers and streams. These vegetated corridors can stretch from a stream's headwaters down to its mouth and are directly influenced by flowing water. Riparian corridors, when appropriately sized, maintain healthy streams and aquatic life and can protect and improve streamside property values.

What does the ideal riparian corridor look like?
A naturally vegetated riparian corridor consists of native shrubs, trees and wetland plants. The width of a riparian corridor is influenced by many factors including the width of the stream, the drainage area, slope of the adjacent land surface and types of soils.

The Function of Riparian Corridor in the Web of Life
The web of life consists of all the living things in our environment. This intricate web indicates that every species relies on one another. Riparian corridors are important ecosystems that support a wide variety of life. In this ecosystem, plants provide nutrients and habitat for terrestrial and aquatic life. Terrestrial life becomes food for aquatic life and vice versa. People rely upon a healthy environment to provide them with drinking water, food and recreation. How we manage our environment, ultimately affects ourselves.



Benefits Provided by Riparian Corridors



Enhance Property Value - Riparian corridors increase property values by providing appealing green space vistas and protecting streamside property from erosion. Proximity to riparian corridors and greenspace enhances property values.

Reduce Flooding & Erosion Problems- During high flows, streams spread out across these vegetated zones, dispersing the energy of flood flows. The root system of a vegetated riparian corridor holds stream bank soils in place against the erosive force of storm water. Development that disturbs riparian corridors is likely to aggravate flooding or erosion problems on adjacent and downstream property.

Filter Storm Water Runoff- An actively growing corridor of plants, shrubs and trees acts to filter storm water. When wide enough, riparian zones can effectively filter and remove pollutants from floodwaters and adjacent land.

Shade Streams - Vegetation on streambanks shade and cool the water, which allows it to hold more oxygen and help support diverse communities ofplants and animals in the stream. Aquatic life is verysensitive to fluctuations in stream temperatures and oxygen levels.

Provide Connected Wildlife Habitats—Riparian plants provide food and shelter for wildlife along the stream. Many bird species nest along the vegetated riparian corridor. Damp cover and organic material also support many attractive bird species and beneficial amphibians such as frogs and salamanders.

Natural Riparian Corridors help Streams Process Pollution. Plants and aquatic insects absorb incoming nutrients from both natural sources and the suburban landscape. Maintaining a healthy riparian corridor keeps nutrients from reaching harmful levels and helps local communities comply with federal water quality standards.

Land Use Impacts on Riparian Corridors

The benefits provided by riparian corridors are disrupted or lost when zoning and development do not recognize and protect these natural features. Potential flooding and erosion damage to downstream property increases and stream pollutant loadings accelerate as a result of riparian corridor disturbances.

Increased Storm Water Flow
Unmanaged runoff from the urban landscape accelerates stream bank erosion, sedimentation and the uprooting of plants and trees. Larger, more aggressive storm flows and the removal of streamside vegetation threaten community infrastructure such as this road and bridge.

Plant Removal
Encroaching streamside development removes important riparian vegetation, exposing streams to excessive sunlight and increasing erosion levels. This affects a stream's ability to maintain oxygen levels and support healthy aquatic life. The manner in which communities and homeowners maintain riparian zones on their property, affect themselves and those who live downstream.

Polluted Runoff
Polluted urban runoff degrades aquatic communities. This impairs the ability of streams to process incoming nutrients and other organic material in a beneficial way. Runoff from homes, industries and parking lots can contribute harmful levels of pollutants, such as pesticides, trace metals, oils and grease, into receiving streams. This impacts a riparian zone's web of life community.

Invasive Species
Non-native plants prevent development of more diverse, native and often more beneficial plant species. Invasive plants, such as purple loosestrife and phragmites lack important food and habitat resources that native animals rely upon. Glossy Buckthorn has overrun and crowded out other native riparian plant species along this stream channel.

Channel Alteration
Straightening, smoothing and armoring the stream bank eliminates many functions provided by riparian corridors. In this situation, the stream velocity will increase, accelerating erosion to natural stream banks downstream.

Managing a Healthy Riparian Corridor

CUYAHOGA AMERICAN HERITAGE RIVER

Often the best management of a functioning Riparian Corridor is to simply leave it alone. Consult with your local watershed group and environmental agencies to determine what actions are needed to manage riparian and stream habitats.

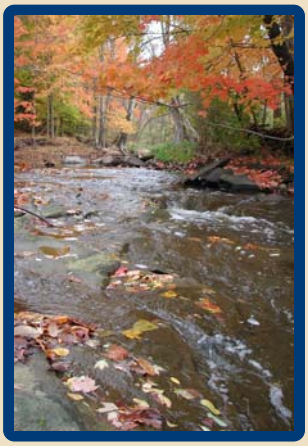
RIPARIAN SETBACK ORDINANCES

Establishing setback ordinances strengthens communities with important tools to manage land uses within riparian zones and often wetland environments. Below are two examples of ordinances that exist for communities to use.

NOACA's Regional Model Ordinance
http://www.noaca.org/ripwetord04.pdf

Summit County Riparian Ordinance
http://www.co.summit.oh.us/council/pdfs/legislation/2002/2002-154.pdf

All communities can use these ordinances to varying degrees to ensure compliance with Ohio EPA, preserve riparian functions and save money.



RIPARIAN RESTORATION PROJECTS- reestablishing healthy and functional riparian zones can be accomplished by planting native grasses, wetland and tree species. Adding boulders to stabilize the shore line and provide protective cover can also help.

Stearns Farm Restoration Project
The RAP, City of Parma, West Creek Preservation Committee and other partners sponsored a stream restoration project in the Big Creek Watershed. This project helped reestablish a riparian corridor along this headwater stream with more native and diverse plant species.

RIPARIAN PRESERVATION- acquiring land through conservation easements or direct acquisition helps protect and preserve riparian corridors in perpetuity.

The City of Akron partnered with the Burton Township Trustees to acquire the 98 acre Burton Headwaters property in 2003. Facilitated by the Trust for Public Land, this purchase will protect the headwaters and riparian zones from development and provide continued water quality benefits to the Upper Cuyahoga River, Akron's source of drinking water supply for more than 300,000 people. It will be used for agriculture and provide the public an environmental learning and viewing opportunity. Akron purchased a conservation easement in 2005 on the Timothy Schaeffer property in Burton Township protecting 45 acres from development and preserving its agricultural use in this rural area along the East Branch of the Upper Cuyahoga River.

Contact the AHR partners for more information on managing riparian corridors in your watershed.

CUYAHOGA RIVER RAP REMEDIAL ACTION PLAN

This brochure is part of a series of guides being prepared by the Cuyahoga AHR Partners to help local officials and interested citizens understand the issues and benefits of local watershed stewardship. Each guide is designed to cover a single topic related to watersheds and stream sustainability. The complete series will comprise a Watershed Handbook for Cuyahoga watershed communities

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