STREAMSIDE BUFFERS:

•Control Erosion
Erosion can be controlled simply by keeping a strip of natural plants along the banks of our streams. Such vegetation catches eroding soil before it reaches our waterways. The roots of plants also strengthen and prevent erosion of stream banks, keeping water clean and maintaining stream channels.

Sawmill Brook with a healthy buffer. Photo, E. Sonder

• Filter Pollutants
Pollutants to our waterways include fertilizers and pesticides used in gardening, as well as salt, sand and oils from our roads. Streamside buffers trap pollutants before they enter our streams. By simply maintaining a buffer of natural plants along our streams and rivers, many pollutants will be absorbed by the natural filter of trees, shrubs, and grasses.

• Provide Wildlife Habitat
The stream's edge is prime real estate for wildlife. Streamside buffers provide foods such as seeds, buds, fruits, and berries, in addition to cover and nesting places. Birds, small mammals, salamanders, frogs and turtles use streams as travel corridors and breed or hunt along them. The insect life found in and near streams is the number one attraction for birds, amphibians, and other creatures.

• Protect Fish
Maintaining a continuous planted buffer along streams is a critical element for our fish. The plants along streams shade the water, helping to keep water temperatures stable. This is essential as fish cannot live in water that is either too hot or cold. The plants that fall into the water provide hiding and breeding places for fish. Leaves are a source of food for aquatic insects, which become the base of the food chain for the fish and other animals.

• Reduce Flooding
Streamside buffers can help regulate stream flow and reduce flooding. The plants in these areas help slow the speed of runoff, store water for future use and gradually release the water back into the stream. This slow release of water helps to maintain stream flow during the driest times of the year.

Species Native to Massachusetts Suitable for Planting in Riparian Areas

Wildflowers and Ground Covers
Angelica (*Angelica atropurpurea*)
Bee Balm (*Monarda didyma*)
Bugleweed (*Lycopus uniflorus*)
Bunchberry (*Cornus canadensis*)
Canada Mayflower (*Maianthemum canadense)*
Cow Parsnip (*Heracleum maximum*)
Cranberry (*Vaccinium macrocarpon*)
Evening Primrose (*Oenothera biennis*)
False Solomons' Seal (*Smilacina racemosa*)
Flowering Raspberry (*Rubus odoratus*)
Fox Grape (*Vitis labrusca*)
Groundnut (*Apios americana*)
Hog Peanut (*Amphicarpa bracteata*)
Jerusalem Artichoke (*Helianthus tuberosus*)
Jewelweed (*Impatiens biflora or pallida*)
Marsh Marigold (*Caltha palustris*)
Meadow Beauty (*Rhexia virginica*)
Ostrich Fern (*Matteuccia pennsylvanica*)
Partridgeberry (*Michella repens*)
Riverside Grape (*Vitis riparia*)
Rose Mallow (*Hibiscus moscheutos*)
Sweet Cicely (*Osmorhiza claytoni*)
Trout Lily (*Erythronium americanum*)
Wintergreen (*Gaultheria procumbens*)

Shrubs
Beach Plum (*Prunus maritima*)
Blueberry, Highbush (*Vaccinium corymbosum*)
Elderberry, Black (*Sambucus canadensis*)
Highbush Cranberry (*Viburnum trilobum*)
Low or Virginia Rose (*Rosa virginiana*)
Nannyberry (*Viburnum lentago*)
Pasture Rose (*Rosa Carolina*)
Shiny or New England Rose (*Rosa nitida*)
Spicebush (*Lindera benzoin*)
Swamp Rose (*Rosa palustris*)
Sweet Fern (*Comptonia peregrina*)
Wild Raisin (*Viburnum cassinoides and prunifolium*)

Trees
Basswood (*Tilia americana*)
Black Birch (*Betula lenta*)
Butternut (*Juglans cinerea*)
Hackberry (*Celtis occidentalis*)
Juneberry/Shadbush (*Amelanchier canadensis and other sp.*)
Mountain Ash (*Sorbus americana*)
Red Maple (*Acer rubrum*)
Silver Maple (*Acer saccharinum*)

Guidelines for Managing Your Buffer

Ideally, nature's growth should be undisturbed along streams. Remove only growth that would dam a stream or block a culvert. Leave stumps and roots intact.

Do:
• Plant native species that are suitable for riparian areas.
• Use composted pine needles or bark chips if mulch is necessary.
• Use only lime or wood ash as fertilizer where needed.
• Inspect your buffer for erosion after heavy rain or flooding.

Do Not:
• Remove native vegetation whenever possible.
• Leave or place lawn clippings or organic debris within 50 feet of a stream.
• Use pesticides or commercial fertilizers in your buffer zone. Nitrogen and phosphorous contained even in organic fertilizers are damaging to aquatic ecosystems.
• Use cedar or redwood chips for mulch.
• Allow pet wastes to contaminate the stream.

Manchester's Town By-laws require residents to notify the Conservation Commission in cases of removal of vegetation, re-grading, or excavation done within 100 feet of a stream.

For more information on how you can protect and enhance a nearby waterway, please contact the following:

Manchester Conservation Commission
(978)526-4397
www.manchester.ma.us/Pages/
ManchesterMA_Conservation/index

Massachusetts Audubon Society
North Shore Advocacy Office
Wenham, MA
(978)927-1122
www.massaudubon.org/

Massachusetts Division of Marine Fisheries
Gloucester, MA
(978)282-0308
http://www.mass.gov/dfwele/dmf/

Massachusetts Riverways Program
Division of Ecological Restoration
Boston, MA
(617)626-1540
www.mass.gov/dfwele/der/riverways

Salem Sound Coastwatch
Salem, MA
(978)741-7900
www.salemsound.org

This brochure was designed and distributed by the Manchester Coastal Stream Team.
www.manchester.ma.us/pages/
manchesterma_bcomm/stream.

Meeting times are posted in Manchester Town Hall. We welcome new members.

Your Property - *Does a Stream Run Through It?*

Sawmill Brook near Lincoln Street well. Photo, E. Sonder

The Importance of STREAMSIDE BUFFERS

A Guide for the Residents of Manchester-by-the-Sea

STREAMSIDE BUFFERS

From their sources in the swampy areas of the Manchester Woods to their entry into our coastal waters, Sawmill Brook and other Manchester streams provide water to our aquifer and habitat to numerous animals and plants. Streamside buffers are an integral part of healthy waterways.

Jack in the Pulpit along Sawmill Brook. Photo, E. Sonder

Does Your Stream Have a Buffer?

A buffer, also known as a "riparian area", is simply the land next to a river or stream. In its natural state, it has plants growing on it: trees, shrubs, and tall, coarse grasses. These bands of vegetation "buffer" the stream from anything that might flow into it – polluted water, eroding soil or toxic chemicals. The roots of the plants hold the banks of the rivers in place, stabilizing the land and absorbing the water and materials that flow across the land.

Buffers also support both land and aquatic animals, insects and plants, and are essential in the interrelated web of our natural world. In the effort to create better views or to create a "cleaner" landscape, many homeowners unwittingly clear their properties right to the water line at a detriment to the rivers and streams they abut.

What Can You Do?

Landowners can make an enormous difference for clean water by simply leaving or restoring a strip of native plants along their segment of river or stream. The width of the strips should be determined by considering slope, geography, and threats to the river. A minimum of 30 feet is recommended, however historical development in Manchester does not always allow for this. Try to create the widest buffer possible. The effort of creating buffers is minimal, but the benefits are incalculable.