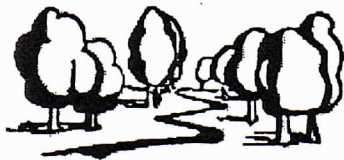


# Stand By



## Your Stream™

### *“Streamside Management - Do's and Don'ts”*

*Guidelines for Private & Public Landowners*

Streamside habitats are integrally connected to the health and ecology of fish and other organisms within the stream and to many terrestrial species as well. Streamside also help improve water quality. Protection of the streamside habitat is critical. Proper management, however, depends not only on maintaining the integrity of the streamside but also on controlling activities in the watershed surrounding it. These management issues can be considered under four broad categories.

#### **Maintain a healthy, vegetated streamside buffer.**

##### **WHY?:**

Vegetation in the streamside is the key to many different aspects of water quality and stream ecology. A diversity of plant types and species will provide food, cover, habitat and corridors for wildlife. Plant stems, foliage and litter retard stormwaters and reduce flooding downstream. Root systems prevent erosion and help to filter out contaminants from groundwater.

##### **DO:**

- Establish a vegetated buffer using native plant species. Exotic species frequently have low value for wildlife, are invasive and form monotypic stands.
- Use a variety of tree, shrub, and herbaceous species. High plant diversity supports more wildlife and provides stability if some of the plants don't survive. Choose species tolerant of anticipated flooding and soil moisture conditions.

- Optimum widths for streamside buffers are under debate. Generally, a minimum buffer width of 60 ft is recommended for filtering with increased widths on steeper slopes. Wider buffers (100-300 ft) are recommended for wildlife. U.S.D.A. suggests the following three zone design for maximizing streamside filtering and other functions.

#### ***3 Zone Buffer System***

##### ***Zone 1: Protected stream edge (15 ft wide)***

Maintain with mature, healthy trees adapted to frequent flooding and/or shallow water tables. Logging is discouraged, however occasional maintenance is necessary. Remove dead trees. Also monitor and remove large branches that have fallen into the stream and are interfering with stream flow.

##### ***Zone 2: Managed tree and shrub zone (60 ft wide)***

Plant a diversity of tree and shrubs adapted to anticipated flooding conditions. Maintain forest litter to help promote organic matter buildup and filtering processes. Harvest selected trees at 12 yr or greater intervals to maximize stand vigor and remove accumulated nutrients and biomass.

##### ***Zone 3: Grass runoff control strip (20 ft wide)***

A strip of warm-weather grasses maintains a high density of stems to slow surface runoff and encourage uniform, shallow overland flow. This strip is mowed regularly or some controlled grazing is allowed for a thick layer of roots and organic matter to develop.

##### **DON'T:**

Don't clear out established vegetation just to improve your view. Instead, replace larger trees with attractive shrubs and scattered small trees. Don't dump lawn clippings or other debris in the buffer area because it kills vegetation and prevents plants from reestablishing. Don't build within the streamside area or overload the bank top.

#### **Control water flow through the streamside buffer.**

##### **WHY?**

Rain water and snowmelt flow by overland and subsurface pathways, from the uplands through the streamside and into the stream. When channelized, overland flow is rapid and erosive with little time for contaminants to be removed. In contrast, sheetflow and subsurface flow move more slowly and contact more substrates where filtering can occur.

## **DO:**

- Control stormwater runoff from dwellings. Direct runoff to grassy areas. Shape or grade ground surfaces to prevent channelized flow into the buffer. If necessary, use structures to convert channelized flow into sheet flow.
- Minimize impervious areas near the streamside. Use stone or brick instead of pavement for driveways and walkways.
- Cover exposed soil with mulch or establish a ground cover to prevent erosion.
- Set gardens level and well away from the streamside area.
- Repair damage from large storms; fill in eroding channels and replant or cover exposed substrates.

## **DON'T:**

Don't allow vehicles, livestock, or excessive pedestrian traffic in the buffer. All these activities trample vegetation, compact the soil and destroy plant roots. Increased erosion and decreased filtering will result.

**Prevent contaminants from entering the streamside.**

## **WHY?**

Healthy vegetated streamside filter out nutrients and many contaminants from runoff and groundwater. However, the capacity for filtration is limited and there are some household and agricultural chemicals which are particularly toxic or non-biodegradable. Therefore it is important to minimize the amount of contaminants which flow into the streamside buffer.

## **DO:**

- Fence off livestock and manage their wastes to minimize flow into the buffer.
- Maintain your septic system and have it pumped periodically.
- Reduce use of fertilizers, herbicides and pesticides on lawns, gardens and farms.
- Remove trash and debris from the streamside because they physically impede plant growth and may leach harmful chemicals.
- Start a household compost area for lawn clippings and vegetable wastes away from the buffer.

## **DON'T:**

Never dump automotive wastes or household chemicals into the buffer.

## **Establish a streamside neighborhood.**

### **WHY?**

By the nature of water flow, streams and streamside are integrally connected to all parts of the landscape. Water quality and ecology within your stream segment is linked directly to stream processes upstream and downstream. Many wildlife species are dependent on these natural corridors. Stresses upstream, such as vegetation clearing, erosion or nutrient loading, will have impacts for long distances downstream.

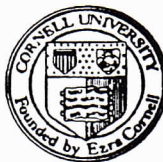
### **DO:**

Link-up with streamside owners all along your stream corridor. Get involved with environmental groups and park agencies that also have streamside properties. Create a sense of neighborhood that will help protect the stream.

### **Special considerations.**

**Logging in your streamside:** Poor logging practices clear needed vegetation, compact the soil and increase erosion. Take special care when logging in or near streamside and consult a forester for detailed advice. Otherwise, it is best to log in the streamside area only when the ground is frozen. Don't store slash or place roads directly within the buffer area.

**Restoration:** Excessive livestock use, development, and other activities can severely denude and erode the streamside area. Complete restoration may require the use of bulkheads, riprap, or other activities which require permits. Such restoration is also labor and resource intensive. Check with representatives from the Natural Resource Conservation Service and with the New York Dept. of Environmental Conservation regarding permits and sources of help before initiating a streamside restoration project.



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*Helping You Put Knowledge to Work*

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