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Support Your Stream

Streams bring an abundance and variety of life to an ecosystem. Streams, large or small, are an important feature in your woodlot. A permanent stream provides year-round enjoyment, while the seasonal pattern of an intermittent stream offers a unique habitat for wildlife. In order to maintain a healthy and viable environment for streams on your land and others throughout the watershed it is critical to understand proper stream management.

Soil disturbance is a key factor that contributes to the tons of soils washed into streams each year. When soil sediments erode into a stream, the soil smothers fish eggs and beneficial aquatic insects. Soil sediment creates turbid or muddy water preventing sunlight from reaching oxygen producing plants, thus reducing the amount of oxygen available to aquatic animals. These aquatic plants are critical because they provide food and cover for many fish, insects and animals. When the number of aquatic plants is influenced, so is the habitat of many aquatic animals found within the stream.

Keeping soil out of streams is the best way to protect water quality. Minimizing soil disturbance is a powerful strategy. Another effective way to prevent soil run off is by establishing a vegetative buffer. Stream bank plans call for plants, which have a dense network of roots helping to stabilize stream banks, prevent erosion, and food for terrestrial animals. Aquatic animals rely on these plants to control water temperature, create cover with branches and logs, and provide food. If a vegetative buffer already exists along your stream, it is important to properly maintain it. One way to protect the vegetation is to try and avoid any activity that will kill or injure the existing stream bank plants.

Threats to stream banks include poor forestry practices, which clear disturb crucial streamside plants or leave exposed soil. Consult a forester for advice when logging near stream sides. Farm livestock can be a major threat to small streams, especially if the livestock congregates along the bank. Steam side plants can be trampled leaving the bank bare and more likely to erode. In addition, livestock waste contaminates

the water with harmful nutrients and diseases, which negatively affects water quality, aquatic animals and plants. Consider fencing off the stream and develop artificial watering sites such as small ponds. Fertilizers, herbicides and pesticides on lawns, gardens and farms will easily run off into a nearby stream, especially if they are applied before a rain event. Phosphorus, a nutrient found in many fertilizers, is essential for plant growth but too much can devastate a waterway. When excess phosphorus enters a stream it stimulates algae blooms and plant growth that will inhibit recreation and water quality. Also, when these plants die and decompose they reduce the amount of oxygen available to fish and aquatic insects. The entire watershed will benefit from the reduction of fertilizers, herbicides and pesticides. Household composts are great for many reasons, but if they are located near a stream, nutrients that will disrupt the stream's ecosystem will leach into the water. Move any compost system away from the streamside. Last, but not least, remember to maintain your septic system. Have it pumped and inspected by a licensed professional every three to five years.

Maintain and enhance your streamside buffer by planting trees, shrubs, or grasses. Planting a diversity of non-invasive trees and shrubs, which are adapted to flood conditions, will further decrease soil erosion and increase water quality. Where possible, favor native plants that have evolved with the local climate and environment and which will require less input from you. Plants, which have evolved elsewhere, such as exotic plants, lack natural predators and may out-compete native, plants and may become invasive or take over the land.

Other ways to protect stream banks include planting grasses and low shrubs which develop deep, strong, fibrous root systems binding stream bank soils and slowing surface run off. Some native plants that are beneficial include: speckled blueberry, pussy willow and prairie willow. Other beneficial plants include: serviceberry, red chokecherry, silky dogwood, gray dogwood, witch hazel, blackberry, arrow wood, tulip poplar, pin oak and elderberry. These plants are often available from local nurseries. For advice on stream bank plants, and further information on streamside care, landowners should contact their local Soil and Water Conservation District or Cornell Cooperative Extension Office.

For additional information on forestland activities that will benefit your objectives, visit Cornell's forestry website at www.ForestConnect.info, contact your local office of Cornell University Cooperative Extension, or join the New York Forest Owners Association through their website at www.nyfoa.org. Specific information on streamside management is available through the Cornell University Cooperative Extension fact sheet series, "Stand by Your Stream".

This article was written by Renee Jensen, Cornell Cooperative Extension of Cayuga County.

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Editors note: This article is the seventh in a 15 part series that is provided through a joint initiative of Cornell University Cooperative Extension and the New York Forest Owners Association as an educational service that helps the citizen of New York enjoy, use, and sustain private rural lands. For more information on these and other topics, please contact your local office of Cornell Cooperative Extension or visit www.ForestConnect.info or www.NYFOA.org