



Cornell University
Cooperative Extension
Ulster County

Upper Esopus Creek Management Plan Newsletter

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Free to residents by request.

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Free Trees Help Landowners with Streamside Erosion

Environmental Protection. The stream experts provided technical advice on planting a streamside buffer of trees and shrubs to eventually prevent further erosion and improve streamside habitat as the plants mature.



As a result of the meeting, resident Pat Leimgruber decided to plant a 100-foot wide buffer of trees and shrubs along her 300-foot streambank. "Not only will it help with the stream, it also gives more privacy from anglers and tourists," Leimgruber commented. "We're happy to not mow as

much grass!" Volunteers were organized to help plant about 300 trees on November 4 through the Upper Esopus Creek Management Project.

On relatively stable streams, healthy, mature vegetation on stream banks and floodplains can be the most affordable landowner's insurance against property loss to erosion during floods. Besides stabilizing banks with a dense root structure, forested buffers also filter groundwater, slow flood waters, and trap sediment. Streamside trees also provide a very important food base for the aquatic food chain by dropping thousands of leaves in the stream.

A second planting at Kate's Lazy Meadow Motel, owned by Kate Pierson and Monica Coleman, is also being planned for the spring.

Free trees and shrubs for these plantings are being provided through the NYS Department of Environmental Conservation's Hudson River Estuary Program, "Trees for Tribs," (as in *tributary* streams). "Trees for Tribs" aims to protect 750 miles of streamside buffers in the Hudson River Watershed by 2015.

The Trees for Tribs program is accepting applications for spring plantings of trees and shrubs until March 1 next year. If you are interested in planting a streamside area in the Ashokan Reservoir watershed, you can apply through Cooperative Extension by contacting Michael Courtney at (845) 340-3990. You can also learn more about the Trees for Tribs Program by contacting Kevin Grieser at the NYSDEC at (845) 256-3145.

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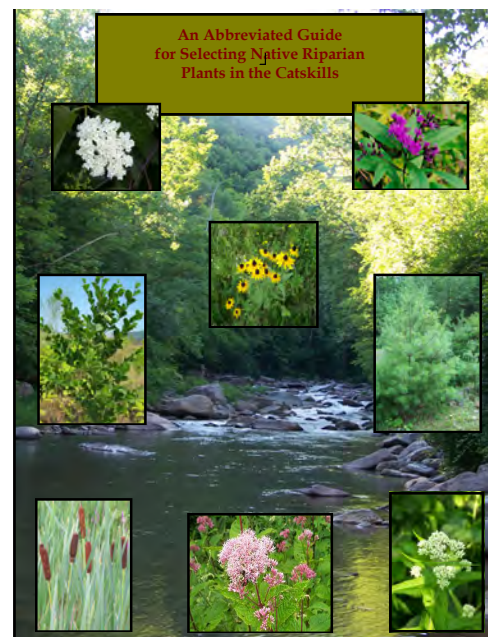
Esopus Creek News

Volume II, Issue III

Upper Esopus Creek Management Plan Newsletter

Fall, 2007

Check Out New Riparian Plant Guide!



Happy Fall! In this edition of *Esopus Creek News*, we are providing a special insert: *An Abbreviated Guide for Selecting Native Riparian Plants in the Catskills*. We hope you will find it a useful information source for the types of plants that are well-suited to stream side (also known as "riparian") areas. Our intern and Esopus watershed native, Bobby Taylor, (see p. 3) created the guide with local landowners and the Catskill ecosystem in mind. All of the plants can be harvested or purchased locally and, being

native, are well-adapted to thrive in our local conditions.

It's still a great time to get out and plant trees and shrubs along cleared or sparsely vegetated streamside areas. Plant now in anticipation of new growth in the spring! Plants are now dormant and won't go through as much shock as a spring planting.

As always, we welcome your feedback. Call us if you have any comments or questions about the guide or would like further information about streamside plants.

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Next Steps for the Management Plan

Work on the draft Management Plan for the Upper Esopus Creek continues steadily. After several meetings with the Esopus Creek Management Plan project advisory committee, CCE is now actively editing that document to incorporate suggested revisions and changes. "We hope to revise the plan shortly and then redistribute it to local libraries and municipal offices and post it on the www.esopuscreek.org website," said Jeremy Magliaro, project coordinator for the Esopus Creek Stream Management Plan. Once the document is revised the focus will

shift to how best to finance and implement the roughly 47 recommendations found in the plan.

As part of the 2007 Filtration Avoidance Determination, the DEP is required to provide \$2 million to help implement the stream management plan recommendations within the watershed that drains into the Ashokan Reservoir. "While that is a healthy start, we are keeping our eye out for additional funds and collaborations to accomplish the most work possible," Magliaro said.

Broadstreet Hollow and Stony Clove Creeks already have stream

management plans in place that would be eligible for this funding. But other stream corridors within the Ashokan watershed, including Woodland Valley, Bush Kill, and Birch Creek, among others, have not yet formulated management plans. So the challenge going forward will be to prioritize projects from all of these different streams in order to get the most benefit from any funds spent.

In order to develop local criteria for prioritizing stream actions, the Esopus project advisory committee

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See Riparian
Plant Guide
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Next Steps for Management Plan

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will be looking at how other watershed organizations have prioritized and financed their stream management recommendations. Many models of criteria to evaluate stream actions already exist. For instance, projects that have multiple purposes, such as flooding mitigation, recreation enhancement, and habitat improvement, could be given priority over those that only meet one of these criteria. Or, projects that have partners

providing matching funds could be prioritized. "There is no right way per se, just what makes sense for a given community or situation," Magliaro said.

As we move forward in this process during the winter and spring of 2008, we hope to enlist the participation and enthusiasm of all interested parties in the Ashokan Watershed so that the spectrum of community concerns and interests are fully represented.

All those interested in the watershed can play a vital role by participating in a committee, providing input through workshops, attending an educational event, volunteering time or labor at a restoration project, or talking with your neighbors. If you are planning work on your streamside property, don't hesitate to contact us so that we can share the assessment data for your reach of stream and assist you in any way we can.



Painting the Stream

Have you noticed the bright, colorful panels adorning downtown Phoenicia businesses? Local young artists, aged 9-13 created the murals during the "Paint the Stream" program this August. The murals depict the unique beauty of West of the Hudson Watershed and provide a public arts component of the Upper Esopus Creek Management Plan.

The week-long youth art program was led by Shandaken artists Christie Scheele and Michelle Spark. The children began the week learning about stream ecology in the Stony Clove with stream educators from Cornell Cooperative Extension of Ulster County and the Catskill Center for Conservation and Development. Sketching ideas helped them give shape to what they learned. The first panel was a 4 x 8-foot mural painted by all the

participants. The children then planned and painted their own individual 2 x 4-foot stream-shaped panels. "By incorporating watershed education into art, the murals provide a representation of life lived on Catskill Streams and a

Phoenicia. The reception included the Rick Altman Trio and a walking tour of the murals along Main Street led by the young artists. Businesses initially were asked to host the panels for eight weeks, but many have indicated that they would like to

keep them up indefinitely.

"Paint the Stream" was sponsored by Cornell Cooperative Extension of Ulster County's Esopus Creek Stream Management Program with additional funding provided by the Catskill Watershed Corporation, NYC DEP, Kids in the Katskills, the Neil Grant Foundation, the Phoenicia Rotary Club and Ulster



reminder to care for our local streams," said artist, Michelle Spark.

The artists and their parents hosted a festive opening reception for "Paint the Stream" on Saturday, August 11, at "the Boardwalk" in

Savings Bank. Special thanks to Rae Stang for gourmet quesadillas! Paint for the project was donated by Golden Artist Colors, Inc.

Learn more about the project at our website: www.esopuscreek.org.



Meet Bobby Taylor, College Intern in His Home Watershed

When I graduated Onteora High School in 2004, I knew I wanted to pursue a degree that captured both my love for being outdoors and my desire to understand the natural world. When I found out last spring that Cornell Cooperative Extension offered a summer internship to do field work on the Esopus Creek, I knew I was the perfect candidate. Currently, I am enrolled as a senior at Cortland State University working toward a geology degree with a

concentration in Environmental Science. The internship was required for my degree to gain experience in conducting and applying field science.

As a native of the Esopus Creek watershed, my connection to the Esopus began at a young age learning to fish under the Bridge Street Bridge in Phoenicia. Later, when I learned to fly fish, I became aware of the turbidity problem from suspended clay sediments in Esopus Creek. I also recall my ninth grade earth science class discussing channel migration from the historic "Greeny Deep" pool behind the

Copper Hood Inn to its present location closer to Route 28. The internship was a natural next step in my engagement with the Esopus Creek.



During the internship I primarily worked in the field with NYCDEP geologist Dan Davis to collect survey data on the channel's shape, sediment, and condition as part of a long term monitoring program. I learned how to use a

geographic information system (GIS) and other software to map and analyze the data we collected. I also learned how to use a global positioning system (GPS) device to map erosion and fine sediment sources while walking Woodland Valley Creek. I am pleased to have been able to contribute to the knowledge base for Esopus Creek.

The internship also included completing a project that conveys research-based information to the community. I wanted to do something that would benefit landowners along the Esopus Creek corridor. In workshops

sponsored by Cooperative Extension, I learned that the public needed a picture guide outlining the importance of streamside (riparian) vegetation for the stream's health as well as erosion control. The project I completed, *A Landowner's Abbreviated Guide for Selecting Native Riparian Buffer Plants*, is included in this newsletter. I chose to include only native species in the guide, because even though many other non-native species can help with erosion control, native plants are better integrated into the local ecosystem.

The work performed this summer was challenging both intellectually and physically, but through those challenges came direction and an answer to the question I asked myself when I applied for this position; what do I want to do with a geology degree? Now I know. I want to further study the processes that direct water to shape the surface of our planet. The experience I gained this summer will definitely benefit me in pursuing this career. Perhaps, in the near future I will be back on the creek, making a career doing what I enjoy most: being outdoors and furthering my knowledge of the natural forces that shape our world.

Free Trees Help Landowners with Streamside Erosion

Streamside landowners in Mt. Tremper, like others living on mountain streams, have seen several feet of their properties crumble into the creek. In one place, erosion has created a 15-foot, unstable vertical bank. The instability of streambanks on many

of these properties has been exacerbated by past clearing of streamside trees and shrubs, which left only a few inches of turf grass roots to hold the soil against the surge of water during large floods.

In an effort to help streamside residents prevent further erosion

of their land, Cornell Cooperative Extension of Ulster County organized a meeting in September between several streamside residents in Mt. Tremper and staff from the Hudson River Estuary Program and NYC Department of

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Remove from Container: Gently tap the sides and gently slide the root ball out of the container by holding sideways or upside down. Hold your hand over the top side of the root ball to hold it. If the roots are tightly bound together in the shape of the container, gently pull them out and loosen them up before planting.



Position the Plant: Balance the plant so it is upright with the surrounding soil depth the same as it was in the container. Make sure roots are even and not clumped or pulled all to one side.



Fill Hole: Fill the hole with the soil you dug out so it is even with the ground surface and the top of the root ball. Do not cover the trunk. Ensure there are no air pockets by pushing firmly, but not compacting the soil. Leave grass sod out around the tree for at least 6-12 inches.



Weed Matting or Mulch: Keep out competing weeds and grass. Weed matting can be used to keep competing weeds down with larger plantings of smaller plants. Staple down folded-in corners. Or, mulch with 2-3 inches of mulch around the base of the tree leaving a space around the trunk. Check and maintain mulch as needed each year.



Protect: Protect your tree from deer, mice, and vole chewing damage by putting a tree tube around the tree tall enough to protect the entire tree. Deer can kill up to 75% of trees in a planting! Use a wood stake and plastic ties on the outside to secure the tube. Leave the tube on until the base of the sapling is one inch in diameter (may take several years). If you don't like the white tubes, you can get green ones to match the landscape.



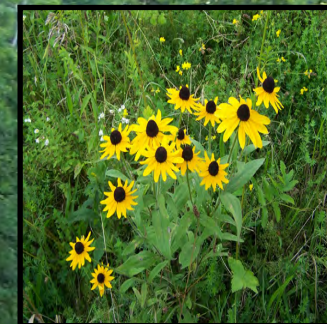
Fertilizer: Do not add fertilizer for the first year. Fertilizers can "burn" roots or stimulate faster crown growth than roots can support. Near streams, avoid using fertilizer as it can add pollutants to the stream. Try mulching as mentioned above.

Prune: Prune only dead or injured branches, do not use tree wound paint.

Tree Wrap: Remove any wrapping on the tree.

Watering: Water after planting, especially if soil is dry. Check soil moisture regularly, especially during dry weather. If the winter is warm, be sure to water as needed to keep roots alive.

An Abbreviated Guide for Selecting Native Riparian Plants in the Catskills



Vegetated riparian zones facilitate stream bank stability by providing a rooted structure to protect against stream bank erosion and flood damage. The stems, branches and foliage of riparian plants serve to slow flood waters when pulled under water, decreasing the erosive potential. Landowners can offer nature a helping hand by actively restoring riparian vegetation. This *Abbreviated Guide* offers a list of different

native plant species, which serve specific buffer and ecological benefits, and are aesthetically pleasing for the landowner. The attributes table can be used to distinguish suitable planting conditions for each plant. Native plants are more naturally integrated into a local ecosystem. The more natural the streamside vegetation, the more natural it will look and the better it will perform its job.

Four Reasons for using native vegetation in streamside landscaping:

Aesthetics: Native plants can be ornamental and will more closely fit the local Catskills landscape.

Horticulture: Native Catskill Plants are well adapted to the conditions they will be planted in. (i.e. acidic, clayey and rocky soils as well as our unique climate) These plants will grow more successfully for less experienced gardeners and landscapers.

Ecology: Native plants fill ecological niches in the ecosystem providing habitat and food for wildlife. Native plants, birds, butterflies and wildlife are well matched.

Conservation: Native Plant populations are in decline and depend on other natives to survive and thrive. One example is the New York State Ironweed. Native plants are constantly being out competed by invasive species, so replanting bare or disturbed banks with natives before exotic plants are able to become established is the most cost effective way of battling invasive plants. If invasive are already in place, remove them and dispose of them properly.

Including a mix of different plants provides a more diverse habitat for wildlife as well as a multi-function riparian buffer.

It is important when actively re-vegetating stream banks that native plant species are selected, and spaced properly to be effective. Plant spacing should be: Shrubs 3-5 feet apart, small trees (25 feet at maturity) 15 feet apart, large trees 25 feet apart and perennials 1-3 feet apart should result in a dense buffer at maturity. Larger trees help to establish a canopy over the stream providing the water with shade improving the overall water quality for aquatic insects, which enhances trout populations as well as other stream critters. Smaller perennials help to slow rising waters allowing storm water to be filtered.

For More Information on How to Plant Your Riparian Buffer Visit the Following Websites:

Catskill Streams:
http://www.catskillstreams.org/stewardship_streamside.html
A well designed, easy to navigate collection of riparian buffer resources. Additional native Catskill Mountain plant lists also available here. Diagrams on buffer function as well as “how to guides” for planting a buffer.

Connecticut River Joint Commissions:
<http://www.crjc.org/riparianbuffers.htm>
This site offers additional fact sheets outlining the value of maintaining a riparian buffer on streamside properties, as well as detailed “how to guides.”

Southeast Michigan Resource Conservation and Development Council:
<http://semircd.org/buffers/bufferguide.pdf>
This is a PDF file including diagrams and photos showing buffers in action.

Regional Nurseries That Carry Some or All of These Plants

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Catskill Native Nursery
607 Samsonville Road
Kerhonkson, NY 12446
(845) 626-2758
www.catskillnativenursery.com

The Phantom Gardener
6837 Route 9
Rhinebeck, NY 12572
(845) 876-8606
<http://www.thephantomgardener.com>

Adams Fairacre Farms
1560 Ulster Avenue
Lake Katrine, NY 12449
(845) 336-6300
<http://www.adamsfarms.com>

Story's Nursery, Inc.
4265 RT 67
Freehold, NY 12431
Phone: (518) 634-7754
<http://www.storysnursery.com>

How to Plant Containerized Trees or Shrubs

Planting a tree correctly involves more than quickly buying a tree, digging a shallow hole and walking away. There are several factors to consider for survival and long life of your trees and shrubs. A correctly planted tree can grow twice as fast and live twice as long as an incorrectly planted one.

Time of Year
While spring is an okay time to plant, late fall is ideal because the plants are dormant and are not traumatized as much when not actively growing above ground. Roots will continue to grow anytime soil temperature is greater than 40 degrees Fahrenheit, preparing the plant for spring growth.

What Type of Tree or Shrubs?
First, consider the factors of where and why you are planting.

Environmental Factors: Determine your location’s moisture, soil type, sun/shade factors. Are you planting right next to the stream, on top of the bank, or in the floodplain?

Purpose: What are your purposes for planting? Preventing erosion? Providing terrestrial or aquatic habitat? Shade? Find plants that meet the needs for your location and purpose.

Size: How big do you want the plants to be? Will it grow into your house, other trees or wires? Find out how big the trees with grow, vertically and horizontally.

Steps for Planting:

Transporting & Storing: Be careful loading and unloading not to break any branches and always provide support beneath balled or potted plants. Containerized trees need to be kept in the shade and kept moist as they may dry out quickly.






Dig the Hole: A correctly sized planting hole is one of the most important parts of planting a tree. Dig a hole to the depth of the root ball. If feasible, dig a wide hole 3-5 times the diameter of the root ball, at the same depth of the root ball. When planting a large number of saplings, a wider hole is not always practical or needed as in this photo. Larger balled or burlapped trees, will want softened soil to grow into. Roots will primarily grow outward in the top few inches of soil.



Continued on next page...

Riparian Plant Characteristics								
Common Name <i>Species Name</i>	Plant Form	Height	LIGHT		SOIL			Special Notes
			full/ part shade	full sun	dry	moist	flood tolerant	
Black Willow (<i>Salix nigra</i>)	T	35-50'	X	X		X	X	Most common tree size willow. Fast growing. Excellent for bank stabilization.
Speckled Alder (<i>Alnus rugosa</i>)	T	15-35'		X		X	X	Great for stabilizing stream banks and provides cover for wildlife. Fast growing.
Swamp White Oak (<i>Quercus bicolor</i>)	T	70-85'	PS	X		X	X	Acorns consumed by wildlife. Tolerates less than ideal conditions.
White Pine (<i>Pinus strobus</i>)	T	70-100'		X	X	X		High food and cover for birds, especially cardinals. Moderate grower.
Green Ash (<i>Fraxinus pensylvanica</i>)	T	60-80'	X	X		X	X	Fast growing, yellow fall color. Very good at stabilizing Stream banks. Grows well.
Red Osier Dogwood (<i>Cornus sericea</i>)	S	6-12'	X	X		X	X	Elegant red twigs in winter. White berries an important food source for birds.
Arrowwood Viburnum (<i>Viburnum dentatum</i>)	S	10-15'	X	X		X	X	Tolerant of shade and very tolerant of flooding. Berries important for birds.
Choke Cherry (<i>Prunus virginiana</i>)	T/S	15-25'	X	X	X	X		Ornamental tree, great fall color, white flowers. Fruit important for wildlife.
Pussy Willow (<i>Salix Discolor</i>)	T/S	20'		X		X	X	Excellent for stream bank stabilization. Moderate wildlife value. Fast grower.
Elderberry (<i>Sanbucus canadensis</i>)	S	6-12'	X	X		X	X	Berries important source for late summer migrants. Very good for stream bank stabillization.
Tussock sedge (<i>Carex stricta</i>)	G	2-4'		X		X	X	Forms clumps. Excellent cover for all types of wildlife. Withstands flood inundation.
New York Ironweed (<i>Veronia noveborancensis</i>)	P	3-7'	X	X	X	X		Grows well on stream banks. Deep violet colored flowers. Also pink-red. Attracts butterflies and birds.
Riverbank Wild Rye (<i>Elymus riparius</i>)	G/ GC	3-5'	PS	X	X	X		Grows naturally along stream banks and in floodplains. Provides ground cover to recently disturbed areas of bank. Sold in seed form.
Bonset (<i>Eupatorium perfoliatum</i>)	P	4-6"		X	X	X		White Flowers attract butterflies and other wildlife. Grows well in wet soil near stream banks.

Plant Form Key: T- Tree; S- Shrub; G- Grass; GC-Ground Cover; P- Herbaceous Perennial

Black Willow (<i>Salix nigra</i>) 	<p>Deciduous tree found in low ground and along stream banks. Capable of growing to 100+ feet with a trunk diameter of 3 feet with narrow lance shaped leaves from 2-5 inches long and up to ¾ of an inch wide. Full sun to partial shade. High ecological and wildlife value especially for shaded, cooler water habitat in summer for native trout species. Experiences rapid growth and works well to stabilize stream banks.</p> <p>Other willow species including <i>sandbar</i>, <i>silky</i>, and <i>weeping</i> work exceptionally well in stream bank and floodplain restoration.</p>
Speckled Alder (<i>Alnus rugosa</i>) 	<p>The Speckled Alder is typically a large or multi-stemmed shrub or small tree 15-25 feet tall. Has simple dark green alternating leaves and produces small woody “pine cones.”</p> <p>Grows well in full sun. Exceptional species for stream bank and flood plain restoration because of its tolerance to saturated soils and its ability to fix atmospheric nitrogen. Grows quite rapidly. Very successful in local stream bank restoration projects</p>
Swamp White Oak (<i>Quercus bicolor</i>)  <small>www.porkyfarm.com</small>	<p>Swamp White Oak is found in the wild in moist lowlands, but also grows well in the uplands. Capable of growing to 85 feet tall with a width of over 60 feet. When mature the dense wide-spreading crown offers ample shade to your backyard and the nearby stream supporting cool water for increased water quality.</p> <p>Leaves are simple, about 6 inches long, medium green above and silvery green below. Partial shade to full sun. This tree grows well in less than ideal conditions including periodically flooded areas and is also quite drought-tolerant.</p>
White Pine (<i>Pinus strobus</i>) 	<p>The White Pine is the largest eastern native conifer, growing 70-100 feet tall. Has slender 2-4 inch long needles that occur in 5 to a bunch. Also produces long slender 3-10 inch tapering cones. Trunk diameter can range from 2-4 feet.</p> <p>The tree provides great cover for birds, especially the northern cardinal. It is a moderate grower and has a shallow root structure. Grows best in full sun with dry to moist sandy soils.</p>
Green Ash (<i>Fraxinus pensylvanica</i>) 	<p>The Green Ash is favored by many because this species tolerates a wide range of site conditions. This tree grows 60-80 feet. It has a rounded crown with bright green, glossy up to 12 inch leaves. Foliage ornamental turning yellow during autumn.</p> <p>Found growing in moist floodplain sites in nature. Is a pioneer species in clay soils. Works well for stabilizing stream banks, and can offer shade for improved water quality. Has had high success in local stream bank restoration projects.</p>

Red Osier Dogwood

(*Cornus sericea*)



<http://www.swcoloradowildflowers.com/White>

Red Osier Dogwood is a deciduous many stemmed shrub 6-12 feet tall. Stems and twigs are dark red when young, fading to grey-green, becoming an elegant red again during winter. Small white flowers grow in flat topped clusters. Produces a white or lead colored berry-like fruit at maturity which is an important food source for birds. Flood and standing water tolerant.

Other dogwood species including grey, silky, and red osier dogwood work exceptionally well as riparian buffer plants.

Arrowwood Viburnum

(*Viburnum dentatum*)



wihort.uwex.edu

Arrowwood is a dense round headed large (10-15 feet) shrub as wide as it is tall. Flat clusters of white flowers in late spring. Glossy green leaves are 2-3 inches wide and 3-4 inches long. Foliage turns yellow to red-orange to purple in fall. Fruits which are well liked by birds turn deep blue in September. Maintains a dense full plant form without much pruning or extra care.

It is tolerant of shade and very tolerant to flooding making it an excellent choice for steam side planting.

Choke Cherry

(*Prunus virginiana*)



Chokecherry can be grown as a single or multi-stemmed small tree (20 feet) or large dense shrub, although plants purchased through nurseries are generally trained in tree form. Alternate dark green leaves often with shades of red and orange during fall. White flowers packed onto a 3-6 inches stem cone shaped. Fruit round (1/3 inches) red, turning dark purple. Tolerate dry-moist rocky soils full sun or partial shade.

Pussy Willow

(*Salix Discolor*)



<http://www.gardenaction.co.uk>

Pussy Willow is an upright standing few-stemmed shrub or small tree. Large, fuzzy, silvery catkins open in late winter. Alternate elliptical leaves about 3 inches long. Excellent choice for stream bank or wetland restoration efforts for its large, fast growing, able to handle flood inundation characteristics.

Requires moist soil, and is shade intolerant, but requires little care. Male flowers attract butterflies. (Only males are available at nurseries since propagation is done by cuttings and they only propagate male)

Elderberry

(*Sanbucus canadensis*)



www.hort.purdue.edu

Elderberry grows in dense arching stems in thickets to about 12 feet high. Leaves are bright green and up to 6 inches long. Very small white flowers in flat topped clusters up to 10 inches long during summer. Produces a deep purple almost black berry which is an important nutrition source for late summer migrant birds. Grows well in shade to full sun, but prefers moist to wet soils and flood tolerant. Has ornamental value and also works very well for stream bank stabilization. Slows velocity of flooding waters.

Tussock sedge

(*Carex stricta*)



Normally found right at the water level, Tussock Sedge grows in clumps up to 4 feet tall and 2 feet wide. As old leaves die they grow up a “tussock” or mound. This mound is an excellent cover for small mammals, insects, frogs and more. The sedge blooms May-June. Flower stems and seeds are reddish brown, and seeds are eaten by northern cardinal.

Highly suggested for streamside plantings since the sedge endures incredible sheer stress from rushing waters, and can help to slow flooding waters.

New York Ironweed

(*Veronia noveborancensis*)



<http://www.terrierman.com/ironweed.jpg>

New York Ironweed occurs naturally in moist thickets and along stream banks. Tall stems up to 7 feet are covered with willowy leaves bearing beautiful intense purple flowers in late summer. Grows well in a wide range of site conditions. Does exceptionally well in clay and sand soils typically found along streams in the Catskill Mountains.

Attracts bees, butterflies and humming birds.

Riverbank Wild Rye

(*Elymus riparius*)



Riverbank Wild Rye grows naturally along streams and in floodplain areas. It is a cool season bunch grass which grows to 5 feet. Has year round foliage.

Provides good soil stabilization for recently disturbed areas of stream bank. Sold at your local nursery in seed form. Provides food and cover for wildlife, including songbirds.

Partial shade to full sun. Tolerates minor standing water.

Boneset

(*Eupatorium perfoliatum*)



Boneset is a herbaceous perennial growing 2-4 feet . Leaves (3-6 inches long) occur in pairs attached at the base, and are wrinkled and veiny. A hairy plant. Occurs naturally in low ground thickets and wetted meadows. Produces a flat topped cluster of 10-20 small white flowers in late summer or early fall. Grows well in moist soils. Wildlife value is very high since it attracts butterflies and other insects.

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