

Riparian Forest Buffer

WV Supplement – Recommended Tree/Shrub Species

Code 391

Purpose

This supplement provides a listing of recommended tree/shrub species and their attributes for riparian forest buffer plantings.

Considerations

The attached list contains species that are recommended for planting or encouragement through natural regeneration in riparian areas. This list is not all inclusive. Other species may occur or be beneficial on a particular site. The columns on the attached table provide information on a variety of considerations.



FORM

This column indicates the growth form of the species. An “S” denotes a shrub. A shrub is defined as a perennial low growing, woody plant with several permanent stems rising from a common base and usually less than 15 feet high.

A “T” denotes that the species is a tree. A tree is defined as a large woody perennial plant with a well defined stem(s) with definite crown. The mature specimen is usually greater than 15 feet in height.

A “T/S” denotes a woody plant that may exhibit both characteristics of a tree and a shrub. The growth form will depend on external environmental factors such as competition, climate or stress.

NATIVE

The plants listed in this column that are marked “Y” are considered native to West Virginia. This means that they grow and reproduce naturally within the state. Native plants should always be utilized where feasible. Non-native plants are indicated with an “N”.

WILDLIFE

Wildlife utilize riparian areas for a variety of life functions due to their diverse plant communities, complex structure, and close proximity to water. Selection of planting material should be based on wildlife needs for food, cover and shelter for a variety of species.

- **Food:** The plants listed in this column are suited to provide various wildlife species food in the form of browse of the foliage, twigs, bark or fruit.
- **Cover:** This plant is suited to provide winter cover, nesting cover or temporary shelter by its growth characteristics for a variety of animals.
- **Corridors:** This plant is suited to use in corridors or travel lanes, including riparian areas, through which wildlife may travel between habitat types.

An “X” in any of the above columns indicates that a tree or shrub is suitable to use for that particular purpose.

WOOD PRODUCTION

An “X” in this column indicates that a particular species is often used for wood production purposes when planted in a riparian area.

Refer to WV Practice Standard 612 Tree/Shrub Establishment for more information concerning spacing for timber production.

REMARKS

This column provides additional information concerning establishment, various growth habits, suitable conditions, etc.

Specifications

This list is not all inclusive and many more tree and shrub species are suitable for establishment in riparian forest buffers for a variety of purposes. Refer to the WV conservation practice standards Tree/Shrub Establishment, code 612 and Riparian Forest Buffer, code 391, and/or their corresponding job sheets for more information about establishing riparian areas through planting or natural regeneration. Clients should work closely with NRCS and WV Division of Forestry personnel when developing and implementing tree/shrub establishment plans in riparian areas.

Species	Form	Native	Suitable Use(s)				Wood Production	Remarks
			Wildlife			Wood Production		
			Food	Cover	Corridors			
Alder, European Black (<i>Alnus glutinosa</i>)	T/S	N			X		Excellent for reclamation. Nitrogen fixer. Good for hedgerow and windbreaks where non-natives are acceptable.	
Alder, Smooth (<i>Alnus serrulata</i>)	S	Y	X		X		Adapted to wetter sites and along streams below 2600 ft	
Alder, Speckled (<i>Alnus rugosa</i>)	S	Y	X		X		Adapted to wetter sites and along streams above 2600 ft	
Arrowwood (<i>Viburnum dentatum</i>)	S	Y	X	X	X		Excellent wildlife food source. Adapted to wetter conditions	
Ash, Green (<i>Fraxinus pennsylvanica</i>)	T	Y	X		X		The seeds are eaten by a number of birds and mammals. Extensively planted as a shade and ornamental tree.	
Ash, White (<i>Fraxinus americana</i>)	T	Y	X	X	X	X	Excellent all purpose ornamental, wildlife, and shade tree. Also has commercial timber value.	
Basswood (<i>Tilia americana</i>)	T	Y	X		X	X	Provides good browse. The buds are important for birds and deer in winter. Planted as a shade tree or ornamental.	
Birch, Black (<i>Betula nigra</i>)	T	Y		X	X		Native riparian tree. Its young twigs, buds, foliage and seeds are used by a variety of wildlife.	
Blackgum (<i>Nyssa sylvatica</i>)	T	Y	X		X		Black bears, foxes, wood ducks, wild turkeys, robins, brown thrashers, thrushes, and flickers frequently eat the fruit.	
Boxelder (<i>Acer negundo</i>)	T	Y			X		Very quick growing. Found along streams and frequently flooded areas. Relatively short lived and often disease prone.	
Cherry, Black (<i>Prunus serotina</i>)	T	Y	X		X	X	Valuable food source for many wildlife species. Used for commercial timber and ornamental purposes on a wide variety of soils.	
Chestnut, Chinese (<i>Castanea mollissima</i>)	T	N	X		X		Mostly planted as an ornamental. Some wildlife utilize the chestnuts.	
Crabapple, Sargent's (<i>Malus sargentii</i>)	T/S	N	X		X		Has persistent fruit that is somewhat valuable to wildlife through winter months. Attractive and hardy.	
Crabapple, Southern (<i>Malus angustifolia</i>)	S	Y	X		X		If near red cedars keep a minimum distance of 500 ft to prevent spread of cedar apple rust. Native crabapple good for wildlife.	
Cucumber-Tree (<i>Magnolia acuminata</i>)	T	Y			X	X	Beautiful native tree common throughout WV. Minimal wildlife value. Sometimes used as an ornamental and timber species.	
Dogwood, Flowering (<i>Cornus florida</i>)	S	Y	X	X	X		Berries eaten by songbirds, grouse, turkey, quail, squirrels; browsed by deer and rabbits. Often used as an ornamental.	
Dogwood, Redosier (<i>Cornus sericea</i>)	S	Y		X	X		Excellent streambank cover. With some wildlife benefits.	

Species	Form	Native	Suitable Use(s)				Remarks
			Wildlife			Wood Production	
			Food	Cover	Corridors		
Dogwood, Silky (<i>Cornus amomum</i>)	S	Y	X	X	X		Stoloniferous. Produces fruit in 3 -5 years. Excellent wildlife plant.
Elderberry (<i>Sambucus canadensis</i>)	S	Y	X	X	X		Excellent all around wildlife plant. Suckers freely. Many species of birds and mammals utilize the fruit.
Hackberry (<i>Celtis occidentalis</i>)	T	Y	X		X		Birds use the mature trees for nesting sites and feed on the fruit. Young stands also provide shelter for game birds and rabbits.
Hawthorn, Washington (<i>Crataegus phaenopyrum</i>)	S	Y		X	X		Provides excellent wildlife cover. Not as prone to spreading as some introduced hawthorns.
Hazelnut, American (<i>Corylus americana</i>)	S	Y	X	X	X		Provides cover and nesting for wildlife. The leaves, twigs, and catkins are browsed by rabbits and deer.
Hemlock, Eastern (<i>Tsuga canadensis</i>)	T	Y		X	X		Evergreen. This tree is versatile as a hedge, large timber species, screen and wildlife tree. Different cultivars exist. Native and attractive.
Holly, American (<i>Ilex opaca</i>)	T/S	Y		X	X		Evergreen. It is important to plant males as well as females if berry production is desired. Used as winter cover and ornamental.
Hornbeam, American (<i>Carpinus caroliniana</i>)	S	Y	X		X		This species produces large amounts of seed eaten by many birds and mammals. Found along streams and rivers. Excellent riparian species.
Locust, Black (<i>Robinia pseudoacacia</i>)	T	Y	X		X	X	Easy to establish. Early successional species and may be relatively short lived. Bee attractant. Nitrogen fixing species.
Maple, Red (<i>Acer rubrum</i>)	T	Y		X	X		Valued as native ornamental. Early blooming and important as an early pollinator for many insects. Grows in almost any condition.
Maple, Silver (<i>Acer saccharinum</i>)	T	Y		X	X		Important as cavity tree and somewhat important as a wildlife food source. May be disease prone and susceptible to storm damage.
Maple, Sugar (<i>Acer saccharum</i>)	T	Y		X	X	X	Popular and long-lived shade and ornamental tree. Tolerates a wide range of conditions. Important for cavity nesting wildlife.
Mulberry, Red (<i>Morus rubra</i>)	T	Y	X		X		Excellent wildlife tree for a variety of species especially birds. Sometimes hard to establish and very site specific.
Nannyberry (<i>Viburnum lentago</i>)	S	Y	X	X	X		Excellent wildlife, hedgerow, screen and ornamental shrub suited to a variety of sites. Commercially available and common throughout WV.
Oak, Chinquapin (<i>Quercus muehlenbergii</i>)	T	Y	X		X		Rare throughout its range. Site specific to alkaline soils and limestone outcropped areas. Good riparian species.
Oak, Northern Red (<i>Quercus rubra</i>)	T	Y	X		X	X	One of our most important and handsome oaks. Important as a wildlife food source, timber species and ornamental.
Oak, Overcup (<i>Quercus lyrata</i>)	T	N	X		X		Often planted for timber and as an ornamental and to improve wildlife habitat for bottomland restoration. Native to the mid-west.
Oak, Pin (<i>Quercus palustris</i>)	T	Y	X		X		Adapted to wetter sites. Good mast producer and attractive ornamental. Utilized by various wildlife especially wood ducks.
Oak, Post (<i>Quercus stellata</i>)	T	Y	X		X		Tolerates harsh conditions and drought. Slow growing and may be susceptible to chestnut blight. Sometimes used as an ornamental.
Oak, Sawtooth (<i>Quercus acutissima</i>)	T	N	X		X		Wildlife oak that produces heavy amounts of small acorns attractive to many animal species. Relatively fast growing.
Oak, Shingle (<i>Quercus imbricaria</i>)	T	Y			X		An ornamental and shade tree, it is suitable for hedges, screens and windbreaks. Relatively low wildlife value among oaks.

Species	Form	Native	Suitable Use(s)				Remarks
			Wildlife			Wood Production	
			Food	Cover	Corridors		
Oak, Swamp White (<i>Quercus bicolor</i>)	T	Y	X		X		Requires moist acidic conditions. Important food for wildlife such as squirrels, black bear, ducks and turkey. Often hybridizes with other oaks.
Oak, White (<i>Quercus alba</i>)	T	Y	X		X	X	Extremely important as a timber and wildlife food tree. Slow growing and often difficult to establish.
Persimmon, Common (<i>Diospyros virginiana</i>)	T	Y	X		X		Used by raccoon, opossum, and various birds, including quail, wild turkey and cedar waxwing. Slow growing and difficult to transplant.
Pine, Eastern White (<i>Pinus strobus</i>)	T	Y		X	X	X	Evergreen. Squirrels and 16 species of songbirds have been known to eat the seed. Native pine with commercial timber and ornamental value.
Pine, Loblolly (<i>Pinus taeda</i>)	T	N		X	X	X	Evergreen. Extremely important timber species. It provides some cover and browse in winter months to wildlife.
Pine, Red (<i>Pinus resinosa</i>)	T	Y		X	X	X	Evergreen. Found primarily at higher elevations in the eastern counties. Used for ornamentals and reforestation and has commercial value.
Plum, Wild (<i>Prunus americana</i>)	T	Y	X		X		Native plum found throughout WV. Common along streambanks and wood lines. Fruit valued by many species of wildlife.
Poplar, Yellow (<i>Liriodendron tulipifera</i>)	T	Y	X		X	X	Fast growing. Attractive ornamental but very large. Important timber species in WV. Provides some secondary wildlife food.
Spruce, Norway (<i>Picea abies</i>)	T	N		X	X		Evergreen. Important as a windbreak, screen and ornamental. Winter cover for some resident birds. Mourning doves utilize this tree for nesting.
Spruce, Red (<i>Picea rubens</i>)	T	Y	X	X	X		Evergreen. One of the most important timber and wildlife species in North America. Site specific above 3500 feet in eastern counties of WV.
Steeplebush (<i>Spiraea tomentosa</i>)	S	Y	X		X		Rhizomatous growth form that provides dense wildlife cover relatively quickly. Usually found on wetter sites.
Swamp Rose (<i>Rosa palustris</i>)	S	Y		X	X		Prefers permanent saturation. May spread under suitable conditions.
Sweetgum (<i>Liquidambar styraciflua</i>)	T	Y			X		Prefers deep soils for root development. Important as a timber, wildlife and ornamental. Tolerates a variety of sites and conditions.
Sycamore, American (<i>Platanus occidentalis</i>)	T	Y			X		Very quick growing and large. Slow decaying leaves. Prone to disease. Found along streambanks and a variety of other sites.
Walnut, Black (<i>Juglans nigra</i>)	T	Y	X		X	X	Prefers deep well drained soils. Important as a timber and nut crop tree. Produces juglone that inhibits competition.
Wild Raisin (<i>Viburnum cassinoides</i>)	S	Y		X	X		Excellent wildlife shrub in wetter conditions. Suited to the eastern mountain counties.
Winterberry (<i>Ilex verticillata</i>)	S	Y	X	X	X		Fruit is poisonous to humans. Higher elevation deciduous holly suited to the eastern mountain counties. Excellent for wildlife.
Witch Hazel (<i>Hamamelis virginiana</i>)	T/S	Y	X		X		Good native wildlife food source. Sometimes hard to establish.