Fact Sheet

RIPARIAN BUFFER MANAGEMENT

UNDERSTORY PLANTS FOR RIPARIAN FOREST BUFFERS

The following tables list understory trees and shrubs appropriate for riparian forest buffers. Understory trees and shrubs are tolerant to shade and are an important structural component of any forest. Some shrubs, such as rhododendron and some blueberries are also adapted to the low-light conditions of the forest understory, but more are adapted to the buffer's edge. The edge might be next to the water or next to an upland area. Most of the shrubs listed prefer moist growing conditions and are good choices for areas that filter water flow. Shrubs that prefer drier sites include witch hazel, grey dogwood, and rosebay rhododendron.

Including understory trees and shrubs in a riparian forest buffer planting increases the structural diversity of the buffer by providing layers of vegetation. This increases biodiversity and enhances both the water quality and wildlife habitat attractiveness of the buffer.

REFERENCES

U.S. Department of Agriculture Forest Service. 1997. *Chesapeake Bay Riparian Handbook.*

Other Fact Sheets in the Riparian Buffer Series:

FS 724	An Introduction to the Riparian Forest Buffer
FS 725	Buffer Design, Establishment, and Maintenance
FS 726	Trees for Riparian Forest Buffers
FS 728	Grasses for Riparian Buffers and Wildlife Habitat Improvement
FS 729	Soil Bioengineering or Streambank Restoration for Riparian Forest Buffers
FS 733	Riparian Buffer Systems

Riparian Buffer Management: Trees for Riparian Forest Buffers
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Riparian Understory Shrubs

	Region Coastal plain (CP) Piedmont (P) Mountains (M)	Wildlife Value V. high High Medium Low	Light Preference ○ ◐ ●	Flood Tolerance High Medium Low	Growth Rate V. fast Fast Medium Slow	Deciduous/ Evergreen	Rooting
Arrowwood viburnum	CP, P, M	Medium	○/◐	Medium	Medium	Deciduous	Shallow
Bayberry	CP	High	○	High	Medium	Deciduous/Evergreen	Shallow
Blackhaw	P, M	High	○/◐	High	Medium	Deciduous	Shallow
Buttonbush	CP, P, M	Medium-High	○/◐	High	Medium	Deciduous	Shallow
Common ninebark	CP, P	Medium	○	High	Fast	Deciduous	Shallow
Elderberry	CP, P, M	V. high	○/◐	High	Fast	Deciduous	Shallow
Grey dogwood	P, M	V. high	○/◐	Low	Medium	Deciduous	Shallow
Highbush blueberry	CP, P	V. high	○/◐	High	Slow	Deciduous	Shallow
Inkberry	CP	High	○/◐	High	Slow	Evergreen	Shallow
Maple-leaf viburnum	P, M	High	◐/●	Low	Medium-Slow	Deciduous	Shallow
Pinxterbloom azalea	CP, P	Low	◐/●	High	Slow	Deciduous	Shallow
Possumhaw	P, M	High	○/◐	High	Medium	Deciduous	Shallow
Pussy willow	P, M	Medium	○	Medium	Fast	Deciduous	Shallow
Red chokeberry	CP	Medium	○/◐	High	Slow	Deciduous	Shallow
Red osier dogwood	CP, P, M	High	○/◐	High	Fast	Deciduous	Shallow
Rosebay rhododendron	CP, P, M	Low	◐/●	Low	Slow	Evergreen	Shallow
Silky dogwood	P, M	High	○/◐	Medium	Fast	Deciduous	Shallow (good bank stabilizer)

Wildlife Value = food source for wildlife

Light Preference: ○ = full sunlight
 ◐ = partial shade
 ● = shade

Flood Tolerance: High = tolerates flooding/high water
 Low = does not tolerate flooding/high water

Riparian Understory Shrubs (continued)

	Region (Coastal plain (CP), Piedmont (P), Mountains (M))	Wildlife Value (V. high, High, Medium, Low)	Light Preference (○ ◐ ●)	Flood Tolerance (High, Medium, Low)	Growth Rate (V. fast, Fast, Medium, Slow)	Deciduous/ Evergreen	Rooting
Smooth alder	P, M	Medium	○/◐	High	Medium-Fast	Deciduous	Shallow
Speckled alder	M	Medium	○	High	Fast	Deciduous	Shallow
Spicebush	CP, P, M	V. high	●/◐	Medium	Fast	Deciduous	Deep lateral
Swamp azalea	CP, P	Low	○/◐	High	Medium	Deciduous	Shallow
Swamp leucothoe	CP, P	Low	◐/●	Medium	Slow	Evergreen	Shallow
Sweet pepperbush	CP, P, M	High	○/◐	High	Medium	Deciduous	Shallow
Virginia sweetspire	P, M	Low	○/◐	High	Medium-Slow	Deciduous	Shallow
Winterberry	CP, P	High	○/◐	High	Slow	Deciduous	Shallow (seasonally flooded areas)
Witch-hazel	P, M	Low	○/◐	Low	Medium	Deciduous	Deep lateral

Wildlife Value = food source for wildlife
Light Preference: ○ = full sunlight
               ◐ = partial shade
               ● = shade

Flood Tolerance: High = tolerates flooding/high water
                 Low = does not tolerate flooding/high water

Riparian Understory Trees

	Region	Wildlife Value	Light Preference	Flood Tolerance	Growth Rate	Height (feet)	Rooting
	Coastal plain (CP) Piedmont (P) Mountains (M)	V. high High Medium Low	○ ◑ ●	High Medium Low	V. fast Fast Medium Slow	>75' 50-75' <50'	
American holly	CP, P	High	◑	Medium-Low	Slow	30-40'	Taproot
American hornbeam	P, M	Medium-High	◑/●	Medium-Low	Slow	30-40'	Deep lateral
Boxelder	P, M	Medium	○	High	V. fast	>50'	Deep lateral
Flowering Dogwood	CP, P, M	Medium	○/◑/●	Low	Slow	30-40'	Shallow
Hawthorn	CP, P, M	High	○	Low-Medium	Medium	<30'	Shallow
Hophornbeam	CP, P, M	Medium	○/◑/●	Low	Slow	<30'	Shallow
Pawpaw	P	V. high	◑/●	Low-Medium	Slow	30-40'	Deep lateral
Persimmon	CP, P	V. high-High	○	Medium	Slow	<50'	Deep taproot
Redbud	P, M	Medium	◑	High	Slow	<50'	Shallow
Sassafras	CP, P, M	High	○	Low	Fast	<50'	Shallow
Shad-bush	P, M	High	◑/●	High	Slow	30-40'	Shallow
Sweet bay magnolia	CP, P	V. low-Low	◑	Medium	Medium	<30'	Deep lateral

Wildlife Value = food source for wildlife

Light Preference: ○ = full sunlight
◑ = partial shade
● = shade

Flood Tolerance: High = tolerates flooding/high water
Low = does not tolerate flooding/high water