

## SUGGESTED PLANTS FOR RESIDENTIAL BIO-INFILTRATION SWALES IN SPOKANE COUNTY

Prepared for the Spokane Stormwater Bio-infiltration Swale Demonstration Project, 2007,  
conducted by Spokane County Stormwater Utility and WSU Spokane County Extension

### LARGE TREES

Scientific name	Common name	Mature height (feet)	Moisture use	Sun or shade	Positive attributes	Negative attributes
Betula nigra	river birch	60	High	Sun	attractive peeling bark: brown (species) or peachy ('Heritage' cultivar), winter interest, not affected by birch borers	weak wood, prone to leaf spot in damp areas, not drought tolerant, prefers acid soil
Fraxinus pennsylvanica (or F. lanceolata)	green ash	50	Medium	Sun/psh	fast grower, tolerant of salt and difficult soils, yellow-gold fall color	weak wood, litter from samaras (some cultivars are seedless), prone to borers, aphids and scale
Populus tremuloides	quaking aspen	50	Medium	Sun	fast grower, bright gold fall color, attractive bark	shallow roots, suckers, prone to various pests
Quercus palustris	pin oak	60	High	Sun	rusty red fall color, holds rust-brown leaves in winter	prone to chlorosis, needs acid soil
Salix alba vitellina	golden willow	50	High	Sun	bright gold upright branches, winter interest, salt tolerant	shallow invasive roots - keep 30' from drywells, prone to pests and canker

### SMALL TREES AND VERY LARGE SHRUBS

Scientific name	Common name	Mature height (feet)	Moisture use	Sun or shade	Positive attributes	Negative attributes
Alnus incana	gray alder, speckled alder	25	High	Sun/psh	fast grower, nitrogen fixer which improves soil	shrubby habit, suckers
Alnus viridis	mountain alder, Sitka alder	15	High	Sun/psh	native, fast grower, nitrogen fixer, leafs out early	shrubby habit, suckers
Amelanchier species	serviceberry, shadblow	10 to 25	Medium	Sun or shade	natives and cultivars, early white flower, orange fall color, fruit	some smaller or grafted varieties may produce suckers
Betula occidentalis	water birch	25	High	Sun/psh	native, spring catkins, yellow fall color	shrubby habit, slightly prone to wood borers
Chamaecyparis thyoides	Atlantic white cedar	5 to 30	Medium	Sun/psh	evergreen, columnar form, bronze or purple winter color, dwarf and variegated cultivars available	slow grower, not drought tolerant, prefers acid soils
Hamamelis virginiana	common witch hazel	20	High	Sun/psh	fragrant yellow flower in fall, yellow-orange fall color, salt tolerant	shrubby habit, no spring flower like most witch hazels
Prunus virginiana	chokecherry	25	Medium	Sun/psh	native, edible fruit, fall color	suckers, poisonous leaf and pit
Salix alba vitellina 'Britzensis,' 'Flame,' or 'Chermesina'	golden willow	20	High	Sun	orange-red new stems, winter interest, can be cut back in spring to keep it small, salt tolerant	shallow invasive roots - keep 30' from drywells, prone to pests, not attractive after cutting back
Salix discolor	pussy willow	20	High	Sun or shade	attractive catkins in spring	shallow invasive roots - keep 30' from drywells, prone to canker

Thuja occidentalis	American arborvitae, Northern white cedar	5 to 30	Medium	Sun/psh	evergreen, many cultivars available with pyramidal, columnar or globe forms	slow grower, prone to spider mites and winter scorch, needs protection from deer and wind
<b>MEDIUM TO LARGE SHRUBS</b>						
Scientific name	Common name	Mature height (feet)	Moisture use	Sun or shade	Positive attributes	Negative attributes
Aronia melanocarpa	black chokeberry	4 to 8	Low	Sun/psh	excellent fall color, black berry, winter interest, drought tolerant	spreads by suckers, prone to mildew
Clethra alnifolia	summersweet, sweet pepperbush	3 to 8	High	Psh/shade	fragrant white or pink flower, attracts butterflies, dwarf cultivars available	late to flower & leaf, spreads slowly by rhizomes
Cornus alba 'Elegantissima,' 'Bailhalo,' others	Tatarian dogwood	5 to 10	High	Sun/psh	variegated leaf, red twig, winter interest, deer resistant	suckers (less than C. sericea), needs maintenance
Cornus sericea (or C. stolonifera) 'Isanti,' 'Bailey's,' 'Kelsyi,' others	redosier dogwood	3 to 8	Medium	Sun/psh	red twig, winter interest, deer resistant	suckers, needs occasional maintenance
Cornus sericea (or C. stolonifera) 'Flaviramea,' others	yellowtwig dogwood	8	Medium	Sun/psh	chartreuse or yellow twig, winter interest, some variegated cultivars, deer resistant	suckers, needs occasional maintenance
Holodiscus discolor	ocean spray	8	High	Sun/psh	native, white flower plumes in early summer	suckers, shaggy-looking in winter due to persistent flower heads
Ilex verticillata	winterberry	8	Medium to high	Sun/psh	bright red berry, winter interest	spreads by suckers, prone to chlorosis, prefers acid soil, requires male plant for pollination
Itea virginica	Virginia sweetspire	2 to 10	High	Sun or shade	fragrant white flower, red or burgundy fall color, dwarf cultivars available	spreads by suckers, marginally hardy
Ribes species	currant, gooseberry	5 to 8	Medium to high	Sun/psh	many native species, early leaf-out, fragrant flower, edible fruit, some species are drought tolerant	spreads by suckers, can be invasive
Salix purpurea	purpleosier willow, Arctic blue willow	5 to 10	High	Sun/psh	purple twig, silvery underleaf, winter interest, dwarf cultivars available	shallow invasive roots - keep 30' from drywells
Spiraea douglasii	rose spirea, Western spirea, steeplebush	4 to 6	Low	Sun/psh	native, fragrant pink summer flower	suckers, can be invasive, prefers acid soil
Viburnum dentatum var. dentatum	arrowwood viburnum	4 to 10	Low	Sun/psh	good fall color, blue-black berry, winter interest, salt tolerant	suckers, prefers nearby viburnum for pollination
Viburnum edule	squashberry, highbush cranberry	4 to 8	Low	Psh/shade	native, white flower, red fall color, red berry	prone to aphids and thrips
Viburnum lantana 'Mohican'	hobblebush, wayfaring tree	8	Medium	Psh/shade	dark green foliage, white flower, red to black berry, somewhat salt tolerant	fishy-smelling flower, not very attractive in winter

Viburnum trilobum	cranberry bush	5 to 10	High	Sun/psh	native, white spring flower, red fall color, red berry, dwarf cultivars available	slightly prone to aphids
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**SMALL SHRUBS**

Scientific name	Common name	Mature height (feet)	Moisture use	Sun or shade	Positive attributes	Negative attributes
Potentilla fruticosa	shrubby cinquefoil	2 to 3	Medium to high	Sun/psh	many natives and cultivars with different colored flowers, deer resistant, salt tolerant	slow growing, not very attractive in winter
Spiraea alba	white meadowsweet	3	Medium	Sun/psh	fragrant flower spikes, fall color	spreads by suckers
Spiraea betulifolia	white spirea, birchleaf spirea	3	High	Shade	native, white flower, fall color	spreads by suckers
Symphoricarpos albus	snowberry	3 to 5	Low	Sun or shade	native, white flower, white berry that attracts birds, winter interest	spreads by suckers, berry is poisonous to humans
Viburnum opulus var. americanum (dwarf cultivars)	American cranberrybush, highbush cranberry	2 to 5	High	Sun/psh	spring flower, fall color, red berry	prone to aphids

**GRASSES, SEDGES, AND RUSHES**

Scientific name	Common name	Mature height (feet)	Moisture use	Sun or shade	Positive attributes	Negative attributes
Alopecurus arundinaceus	creeping meadow foxtail	2	High	Sun	sod former, salt tolerant	not drought tolerant
Alopecurus geniculatus	water foxtail	2	High	Sun	early spring growth, very tolerant of wet soils	not drought tolerant
Andropogon gerardii	big bluestem, turkeyfoot	6	Low	Sun	gray-blue leaf, attractive flower, rusty fall color, very deep roots, salt tolerant, drought tolerant	may spread by rhizomes
Calamagrostis species	bluejoint, pinegrass, feather reed grass	3 to 6	Medium	Sun/psh	natives and cultivars, upright habit, attractive flower, fall and winter interest, deer resistant	
Calamagrostis stricta ssp. inexpansa	northern reedgrass	3	High	Sun/psh	salt tolerant	
Carex species	sedge	1 to 4	High	Sun/psh	wide range of sizes, leaf colors and variegations available	most species are not drought tolerant, some may be invasive
Chasmanthium latifolium	Indian woodoats, northern sea oats	3	Medium	Sun/psh	light green leaf, attractive flower, fall color, winter interest	self-sows occasionally
Deschampsia caespitosa	tufted hairgrass	2 to 4	Low	Sun/psh	attractive lacy flower, range of sizes and leaf colors	some varieties self-sow and may become invasive
Deschampsia elongata	slender hairgrass	3	Low	Sun	salt tolerant	

Elymus (or Leymus) glaucus	blue wildrye, blue lyme grass	3	Low	Sun/psh	blue leaf color, fast grower, salt tolerant, drought tolerant, bunchgrass	fast spreader by rhizomes, may be invasive
Elymus lanceolatus ssp. lanceolatus	thickspike wheatgrass	2	Low	Sun	sod-former, low maintenance, drought tolerant	fast spreader, may invade other grasses
Hierochloe odorata	sweetgrass	2	High	Sun/psh	native, fragrant leaf, salt tolerant, bunchgrass	
Juncus species	rush	3	Medium	Sun/psh	range of colors and forms, some evergreen	most species are not drought tolerant, some may be invasive
Leymus cinereus	basin wildrye	4	High	Sun	salt tolerant, bunchgrass	
Leymus triticoides	beardless wildrye	2	High	Sun	salt tolerant, drought tolerant, sod former, good weed suppressor	
Muhlenbergia glomerata	spiked muhly, marsh muhly	3	Medium	Sun/psh	native, sod former, salt tolerant	
Panicum virgatum	switchgrass	5	Medium	Sun	attractive lacy flower, range of leaf colors, fall color, winter interest, salt tolerant	some varieties self-sow and may become invasive
Pascopyrum smithii	western wheatgrass	2	Medium	Sun	blue-green leaf, salt tolerant, drought tolerant, sod former	
Poa pratensis	Kentucky bluegrass	1	High	Sun	blue-green leaf, sod former	high maintenance and fertilizer requirements, low tolerance of flood, drought, salt, or shade
Scirpus (or Schoenoplectus) species	bulrush	3 to 5	Medium	Sun	natives and cultivars, many sizes and colors, some evergreen, reported to uptake metals in runoff	needs constant moisture
Sporobolus airoides	alkali sacaton	3	Low	Sun	salt tolerant, drought tolerant, bunchgrass	

**PERENNIALS**

Scientific name	Common name	Mature height (feet)	Moisture use	Sun or shade	Positive attributes	Negative attributes
Acorus species	sweet flag	4	High	Sun	fragrant leaf, some variegated cultivars	needs constant moisture, spreads by rhizomes, winter dormancy
Aquilegia species	columbine	1 to 3	Medium	Sun/psh	natives and hybrids, colors include red, white, and blue, deer resistant	may self-sow
Aster (or Symphyotrichum) novae-anqliae	New England aster	2 to 5	Medium	Sun	many varieties available, late summer bloom, deer resistant	self-sows, some have invasive roots
Aster (or Symphyotrichum) novi-belqii	Michaelmas daisy, New York aster	2 to 4	Medium	Sun	many varieties available, late summer bloom, deer resistant	some have invasive roots
Astilbe species	false spiraea, meadowsweet	2 to 3	High	Shade	white to red plumed flower	slow spreader
Athyrium species	lady fern, Japanese painted fern	1 to 4	High	Psh/shade	some natives, some variegated cultivars	winter dormancy
Camassia quamash (or C. esculenta)	small camas, common quamash	2	High	Sun	native, bright blue flower in spring, prefers wet soil in spring	short bloom, summer dormancy, attractive to deer and rodents

Dodecatheon pulchellum	darkthroat shootingstar	2	Medium	Sun/psh	native, pink flower in spring	limited availability
Dryopteris erythrosora	autumn fern	2	High	Shade	orange to copper spring and fall color	winter dormancy
Echinacea purpurea	coneflower	3	Medium	Sun	long blooming period in late summer/fall, many colors available, winter interest, deer resistant	some cultivars are marginally hardy
Eupatorium purpureum	Joe Pye weed	7	Medium to high	Sun/psh	striking size and form, purplish flower attracts butterflies	prefers constant moisture, spreads by rhizomes, may be invasive
Hemerocallis species	daylily	2	Medium	Sun/psh	long bloom in spring and summer, tough plant, many colors available	prone to aphids and thrips, toxic to cats
Hosta species and hybrids	plantain lily	1 to 2	High	Psh/shade	wide range of colors and sizes	prone to slugs, winter dormancy
Iliamna rivularis	streambank wild hollyhock	6	Medium	Sun/psh	native, fragrant pink flower	limited availability
Iris ensata	Japanese iris	3	High	Sun/psh	blue or purple flower, variegated cultivars available	some varieties are marginally hardy
Iris missouriensis	Rocky Mountain iris, blue flag	2	High	Sun/psh	native, blue flower in spring, attractive leaf, deer resistant	short bloom, poisonous root, can be invasive
Iris sibirica	Siberian iris	3	Medium to high	Sun/psh	blue or purple summer flower, deer resistant	short bloom, poisonous root
Iris versicolor	blue flag	3	Medium to high	Sun/psh	blue or purple summer flower, deer resistant	poisonous root
Liatris spicata	dense blazing star, gayfeather	3	Medium	Sun/psh	pink, white, or purple spike flower, deer resistant	slightly prone to root rot and mildew
Lobelia cardinalis	cardinal flower	2	High	Psh/shade	bright red late summer flower on tall spikes	poisonous, needs constant moisture
Lobelia siphilitica	great lobelia	2	High	Psh/shade	blue late summer flower on tall spikes	poisonous, needs constant moisture, short lived
Matteuccia struthiopteris	ostrich fern	5	High	Sun or shade	striking size and form	spreads by rhizomes, winter dormancy
Monarda didyma	bee balm, Oswego tea	3	High	Sun/psh	fragrant red or pink flower, long bloom time, deer resistant	needs constant moisture, prone to powdery mildew
Monarda fistulosa	wild bergamot	3	High	Sun/psh	fragrant pink flower, deer resistant	prefers constant moisture
Oenothera fruticosa	narrowleaf evening-primrose, sundrop	2	High	Shade	yellow flower (open in daytime), deer resistant, salt tolerant	short lived
Osmunda cinnamomea	cinnamon fern	4	Medium	Shade	striking size and form	winter dormancy
Osmunda regalis	royal fern	5	High	Shade	striking size and form	winter dormancy
Phlox maculata ssp. maculata	wild sweetwilliam, spotted phlox	2	Medium	Sun	early white or pink flower	slightly prone to mildew
Polygonatum biflorum	Solomon's seal	3	High	Psh/shade	white flower, fall color, graceful form	spreads slowly by rhizomes
Polystichum munitum	sword fern	3	High	Shade	native, drought tolerant once established	winter dormancy

<i>Sisyrinchium idahoense</i>	Idaho blue-eyed grass	1	Medium	Sun/psh	native, small blue-purple spring-summer flower	limited availability
<i>Smilacina racemosa</i>	false Solomon's seal	2	High	Psh/shade	native, fragrant white flower, red berry, fall color	spreads by rhizomes, can be invasive
<i>Trollius</i> spp.	globeflower	2	High	Sun/psh	yellow to orange flower	needs constant moisture
<i>Typha</i> spp.	cattail	3 to 5	High	Sun	attractive in fall, dwarf cultivars available, salt tolerant	spreads by rhizomes, can be invasive
<i>Valeriana occidentalis</i>	western valerian	3	High	Sun	fragrant pink flower	needs constant moisture, can be invasive

### GROUND COVERS

Scientific name	Common name	Mature height (feet)	Moisture use	Sun or shade	Positive attributes	Negative attributes
<i>Alchemilla mollis</i>	lady's mantle	1 to 2	Medium	Psh/shade	chartreuse flower, effective ground cover, deer resistant	self-sows, can be invasive
<i>Asarum caudatum</i>	wild ginger	1	High	Psh/shade	native, fragrant leaf, evergreen ground cover	slow spreader, prefers acid soil, prone to slugs
<i>Cornus canadensis</i>	bunchberry	1	Medium	Psh/shade	native, white dogwood flower, edible red fruit, fall color, deer resistant	prefers acid soil, not tolerant of strong sun, heat or drought
<i>Fragaria</i> species	wild strawberry	1 to 2	Medium	Sun/psh	natives and cultivars, white or pink flower, edible berry, spreads by surface runners, deer resistant	certain species (e.g., <i>F. chiloensis</i> ) can be invasive
<i>Galium odoratum</i>	sweet woodruff	1	Medium	Psh/shade	fragrant leaf, small white flower	prefers constant moisture, self-sows, can be invasive
<i>Geranium macrorrhizum</i>	bigroot cranesbill	1	Medium	Sun/psh	white or pink flower, fragrant leaf, fall color, deer resistant	slow spreader
<i>Maianthemum dilatatum</i>	false lily of the valley	1	High	Psh/shade	native, white flower, red berry	spreads fast, can be quite invasive, prefers acid soil
<i>Myosotis scorpioides</i>	true forget-me-not	1	High	Psh/shade	small blue or white flower, spreads to form ground cover	self-sows, spreads by rhizomes, can be invasive
<i>Pachysandra terminalis</i>	Japanese spurge	1	High	Psh/shade	shiny leaf, some variegated cultivars, evergreen ground cover	prefers consistently moist, rich, acid soil, may be slow establishing
<i>Potentilla diversifolia</i>	varileaf cinquefoil, mountain meadow cinquefoil	2	Medium	Sun/psh	native ground cover, yellow flower	self-sows, spreads by rhizomes, can be invasive
<i>Potentilla plattensis</i>	Platte River cinquefoil	1	Medium	Sun/psh	native ground cover, yellow flower	self-sows, spreads by rhizomes, can be invasive
<i>Potentilla tabernaemontani</i> (or <i>P. verna</i> or <i>P. neumanniana</i> )	spring cinquefoil, creeping cinquefoil	1	Medium	Sun/psh	fast spreading ground cover, yellow flower, can be mowed to keep neat	self-sows, spreads by rhizomes, can be invasive
<i>Waldsteinia ternata</i>	barren strawberry	1	Medium to high	Sun/psh	slow spreading ground cover, yellow flower, deer resistant	spreads by rhizomes, can be invasive

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