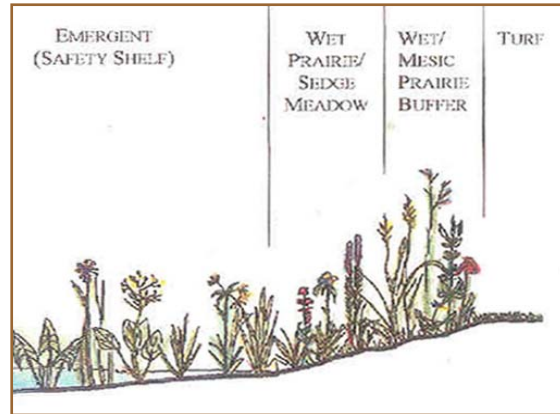


Silver Lake Shoreline Buffer TMDL Project – Plant Lists

The vegetated shoreline buffer will consist of three planting zones to create a plant cross-section somewhat like this figure:

- **Upland zone** with prairie and wetland areas,
- **Transition zone** plants on the pillow rip-rap above the waterline, and
- **Emergent zone** plants on the pillow rip-rap below the waterline at thirty locations.



The following lists identify the plants contained in each seed mix.

The **Upland zone** - prairie areas will contain the following mesic seed mix:

Scientific Name	Common Name	% Seed by Weight	Height
Forbs: 5 lbs. PLS/Acre			
<i>Agastache foeniculum</i>	Blue Giant Hyssop	5	2-3
<i>Aster laevis</i>	Smooth Aster	5	2-3
<i>Aster ericoides</i>	Heath Aster	5	1-3
<i>Dalea purpurea</i>	Purple Prairie Clover	5	1-3
<i>Desmodium canadense</i>	Tick Trefoil	5	2-3
<i>Eupatorium maculatum</i>	Joe-Pye Weed	5	4-6
<i>Euphorbia corollata</i>	Flowering Spurge	5	2-3
<i>Heliopsis helianthoides</i>	Common Ox-eye	5	2-4
<i>Lespedeza capitata</i>	Round Headed Bush Clover	5	2-3
<i>Liatris aspera</i>	Rough Blazing Star	3	2-3
<i>Liatris ligulistylus</i>	Meadow Blazing Star	3	2-4
<i>Liatris pycnostachya</i>	Prairie Blazing Star	3	2-3
<i>Monarda fistulosa</i>	Beebalm	5	3-4
<i>Pycnanthemum virginianum</i>	Mountain Mint	5	2-3
<i>Rudbeckia hirta</i>	Black Eyed Susan	6	2-3
<i>Silphium perfoliatum</i>	Cup Plant	5	4-6
<i>Solidago rigida</i>	Stiff Goldenrod	5	2-3
<i>Thalictrum dasycarpum</i>	Tall Meadow Rue	5	3-5
<i>Verbena hastata</i>	Blue Vervain	5	3-4
<i>Veronicastrum virginicum</i>	Culver's Root	5	3-5
<i>Zizia aurea</i>	Golden Alexander	5	1-3
Grasses 10 lbs. PLS/Acre			
<i>Andropogon gerardii</i>	Big Bluestem	10	3-7
<i>Carex bicknellii</i>	Bicknells Sedge	7	1-2
<i>Carex muhlenbergii</i>	Muhlenberg's Sedge	3	1
<i>Elymus canadensis</i>	Canada Rye	5	3-4

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<i>Koeleria pyramidata</i>	June Grass	10	1-2
<i>Schizachyrium scoparium</i>	Little Bluestem	25	2-3
<i>Sorghastrum nutans</i>	Indian Grass	5	3-6
<i>Spartina pectinata</i>	Prairie Cordgrass	5	3-6
<i>Sporobolus heterolepis</i>	Prairie Dropseed	25	2-3
<i>Stipa spartea</i>	Porcupine Grass	5	2-3

The **Upland zone** – wetland areas will contain the following wet meadow seed mix:

Scientific Name	Common Name	% of Seed by Weight	Height
Forbs: 5 lbs. PLS/Acre			
<i>Agastache foeniculum</i>	Blue Giant Hyssop	4	2-3
<i>Anemone Canadensis</i>	Canada Anemone	4	1-2
<i>Asclepias incarnate</i>	Marsh Milkweed	4	3-5
<i>Aster novae-angliae</i>	New England Aster	4	2-5
<i>Aster puniceus</i>	Red-Stemmed Aster	4	3-5
<i>Eupatorium maculatum</i>	Joe Pye Weed	4	4-6
<i>Eupatorium perfoliatum</i>	Boneset	4	3-4
<i>Helenium autumnale</i>	Sneezeweed	4	2-5
<i>Impatiens capensis</i>	Jewelweed	4	1-4
<i>Liatris ligulistylus</i>	Meadow Blazing Star	3	2-4
<i>Liatris pycnostachya</i>	Prairie Blazing Star	3	2-3
<i>Lobelia siphilitica</i>	Great Blue Lobelia	4	1-4
<i>Monarda fistulosa</i>	Beebalm	4	
<i>Physotegia virginiana</i>	Obedient Plant	4	2-4
<i>Pycnanthemum virginianum</i>	Mountain Mint	4	2-3
<i>Rudbeckia subtomentosa</i>	Brown-Eyed Susan	4	2-3
<i>Silphium perfoliatum</i>	Cup Plant	5	4-6
<i>Solidago rigida</i>	Stiff Goldenrod	4	2-3
<i>Sparganium eurycarpum</i>	Giant Burreed	4	3-4
<i>Thalictrum dasycarpum</i>	Tall Meadow Rue	4	3-5
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	4	1-3
<i>Verbena hastate</i>	Blue Vervain	4	3-4
<i>Vernonia fasciculata</i>	Common Ironweed	5	3-5
<i>Veronicastrum virginicum</i>	Culver's Root	4	3-5
<i>Zizia aurea</i>	Golden Alexander	4	1-3
Grasses, Sedges and Rushes: 12 lbs. PLS/Acre			
<i>Andropogon gerardii</i>	Big Bluestem	5	3-7
<i>Bromus ciliatus</i>	Fringed Brome	10	2-4
<i>Calamagrostis Canadensis</i>	Bluejoint Grass	10	2-4
<i>Carex bebbii</i>	Bebb's Sedge	5	2-3
<i>Carex crinita</i>	Caterpillar Sedge	5	2-5
<i>Carex stipata</i>	Awl-Fruited Sedge	10	1-3

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<i>Carex vulpinoidea</i>	Fox Sedge	10	1-3
<i>Scirpus atrovirens</i>	Green Bulrush	10	1-5
<i>Scirpus cyperinus</i>	Wool Grass	10	3-4
<i>Scirpus pungens</i>	Three Square Bulrush	10	3-5
<i>Sorghastrum nutens</i>	Indian Grass	5	3-7
<i>Spartina pectinata</i>	Prairie Cordgrass	10	3-6

The **Upland zone** – wetland areas will also be planted with the following small wetland plants:

Scientific name	Common Name	Height
Forbs		
<i>Asclepias incarnata</i>	Marsh Milkweed	3-5
<i>Chelone glabra</i>	Turtlehead	3-4
<i>Eupatorium maculatum</i>	Joe Pye Weed	4-6
<i>Gentiana andrewsii</i>	Bottle Gentian	1-2
<i>Iris versicolor</i>	Blueflag Iris	1-2
<i>Liatris ligulistylus</i>	Meadow Blazing Star	2-4
<i>Liatris pycnostachya</i>	Prairie Blazing Star	2-3
<i>Lysimachia quadriflora</i>	Prairie Loosestrife	1-2
<i>Rudbeckia subtomentosa</i>	Brown-Eyed Susan	2-3
<i>Sagittaria latifolia</i>	Broadleaved Arrowhead	1-4
<i>Silphium perfoliatum</i>	Cup Plant	4-6
<i>Sparganium eurycarpum</i>	Giant Burreed	3-4
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	1-3
<i>Zizia aurea</i>	Golden Alexander	1-3
Grasses, Sedges and Rushes		
<i>Andropogon gerardii</i>	Big Bluestem	3-7
<i>Bromus ciliatus</i>	Fringed Brome	2-4
<i>Calamagrostis canadensis</i>	Bluejoint Grass	2-4
<i>Carex crinita</i>	Caterpillar Sedge	2-5
<i>Carex stipata</i>	Awl-Fruited Sedge	1-3
<i>Carex vulpinoidea</i>	Fox Sedge	1-3
<i>Juncus torreyi</i>	Torrey's Rush	1-3
<i>Scirpus acutus</i>	Hardstem Bulrush	4-5
<i>Scirpus cyperinus</i>	Wool Grass	3-4
<i>Scirpus pungens</i>	Three-Square Bulrush	3-5
<i>Scirpus validus</i>	Soft-Stem Bulrush	4-5
<i>Spartina pectinata</i>	Prairie Cordgrass	3-6

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The following wetland shrubs will also be planted in each wetland area:

Scientific Name	Common Name
Shrubs	
<i>Alnus incana</i>	Speckled Alder
<i>Amorpha fruticosa</i>	Indigo Bush
<i>Aronia melanocarpa</i>	Black Chokeberry
<i>Cephalanthus occidentalis</i>	Buttonbush
<i>Spiraea alba</i>	Meadowsweet
<i>Viburnum lentago</i>	Nannyberry Viburnum
<i>Viburnum trilobum</i>	High Bush Cranberry

The **Transition zone** is the pillow rip rap above the water line. Compost seeded with the mesic and wet meadow mixes listed above will be applied to the rip rap and covered with a netting to hold it in place while it grows.

The **Emergent zone** plants will be planted at thirty locations around the lake. At each location, a fifty-foot long coconut fiber blanket that has been pre-planted with the following aquatic plant plugs will be submerged below the waterline and affixed to the pillow rip rap.

Scientific name	Common Name	Height	Quantity
Forbs			
<i>Acorus calamus</i>	Sweet Flag	2-6	454
<i>Nuphar advena</i>	Spaddeedock	n/a	454
<i>Sagittaria latifolia</i>	Broadleaved Arrowhead	1-4	454
<i>Sparganium eurycarpum</i>	Giant Burreed	3-4	454
Grasses, Sedges and Rushes			
<i>Carex lacustris</i>	Lake Sedge	2-3	454
<i>Juncus effusus</i>	Soft Rush	2-4	454
<i>Scirpus acutus</i>	Hard Stem Bulrush	4-5	454
<i>Scirpus atrovirens</i>	Green Bulrush	3-5	454
<i>Scirpus cyperinus</i>	Wool Grass	3-4	454
<i>Scirpus fluviatilis</i>	River Bulrush	5-7	454
<i>Scirpus pungens</i>	Three-Square Bulrush	3-5	454
<i>Scirpus validus</i>	Soft-Stem Bulrush	4-5	454

The wooded area on the north side of Silver Lake will have the under story of invasive trees and shrubs (primarily buckthorn and honeysuckle) removed, after which the following woodland seed mix will be applied.

Scientific Name	Common Name	% of Seed by Weight
Forbs: 5 lbs. PLS/Acre		
<i>Aquilegia canadensis</i>	Columbine	10
<i>Geranium maculatum</i>	Wild Geranium	15

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<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	10
<i>Osmorhiza claytonii</i>	Sweet Cicely	15
<i>Pycnanthemum pilosum</i>	Hairy Mountain Mint	10
<i>Polygonatum biflorum</i>	Solomon's Seal	10
<i>Solidago flexicaulis</i>	Zig-Zag Goldenrod	10
<i>Thalictrum dioicum</i>	Early Meadow Rue	10
Sedges: 10 lbs. PLS/Acre		
<i>Carex sprengeii</i>	Long-Beaked Sedge	5
<i>Hystrix patula</i>	Bottlebrush Grass	5

Several tree groves will also be planted at various locations around the lake, using different combinations of the species listed below:

Scientific Name	Common Name	Quantity
Trees		
<i>Amelanchier laevis</i>	Serviceberry	3
<i>Gymnocladus dioicus</i>	Kentucky Coffee Tree	15
<i>Juglans cinerea</i>	Butternut	15
<i>Prunus americana</i>	American Plum	3
<i>Quercus bicolor</i>	Swamp White Oak	15
<i>Quercus macrocarpa</i>	Bur Oak	2
<i>Quercus macrocarpa</i>	Bur Oak	3
Shrubs		
<i>Amelanchier alnifolia</i>	Saskatoon Serviceberry	8
<i>Aronia melanocarpa</i>	Black Chokeberry	15
<i>Cephalanthus occidentalis</i>	Buttonbush	9
<i>Cornus racemosa</i>	Gray Dogwood	14
<i>Cornus sericea</i>	Red Twig Dogwood	8
<i>Rhus aromatica</i>	Fragrant Sumac	11
<i>Rhus aromatica 'Gro-low'</i>	Gro-Low Sumac	35
<i>Sambucus canadensis</i>	American Elder	16
<i>Symphoricarpos orbiculatus</i>	Coralberry	9
<i>Viburnum rafinesquianum</i>	Arrowhead Viburnum	3
<i>Viburnum trilobum</i>	American Cranberry Bush	8