

# WHAT GOES WHERE

You can help preserve Gore Creek. Here's how.

## LANDSCAPE DESIGNER'S GUIDE

As a landscape architect or landscape designer in Vail, you do a lot to keep our town beautiful. But you may not realize that Gore Creek—the main waterway that meanders through town—is suffering the impact of fertilizers, pesticides, and landscaping techniques that destroy native vegetation.

As rain or melting snow flows across our yards, rooftops, and paved areas, it picks up pollutants including sediment, organic matter, pesticides and fertilizers. Polluted water then flows off these properties to roadways, ditches or through storm drains to Gore Creek, harming important aquatic insects, increasing algae blooms and adding sediment all of which impact the food chain for our prized trout fishery. The cumulative impacts of urbanization in the Gore Creek valley over the past half-century have had a significant impact on the health of Gore Creek, including the insects, fish, birds and vegetation that depend on clean water.

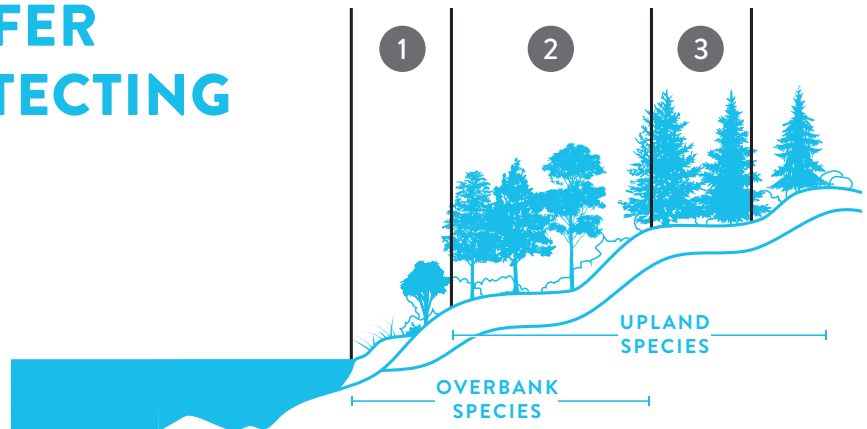
Because landscaping is so closely tied to natural processes, design and maintenance practices can have a significant effect on water quality in Gore Creek and beyond. The good news is you can improve the Creek's health by adopting a few simple practices.

- Add trees and shrubs to your clients' yards to capture, hold and filter rainwater.
- Encourage your clients to use up to three inches of mulch (like leaves, aged wood chips, compost or grass clippings),

primarily in spring and fall. Mulch stabilizes soil temperature, prevents weeds, feeds the soil for healthier plants and helps to conserve water.

- Incorporate swales and berms into landscapes to slow runoff and prevent it from leaving yards.
- Consider installing a rain garden and directing roof drains to it.
- Consider using porous pavements such as pavers, flagstone and gravel instead of impervious surfaces such as asphalt or concrete for sidewalks and driveways.
- Observe town ordinances regarding riparian buffers and setbacks.
- Use the Three-Zone Buffer System (next page) for guidance on building and landscaping activities within 100 feet of any stream.
- Minimize the use of turf where possible, which will in turn reduce fertilizer, pesticide and water requirements.
- Plant a diverse landscape, which will naturally minimize pest problems.

# THREE-ZONE BUFFER SYSTEM FOR PROTECTING GORE CREEK



## 1 < 25 FEET OVERBANK ZONE

This area is important for bank stability, preventing erosion, filtering and absorbing pollutants, and providing habitat for terrestrial and aquatic wildlife. Contains wetland plants and mature riparian forest.

- Leave native vegetation undisturbed.
- Reintroduce native shrubs, grasses and forbs as a substitute for turf and other manmade improvements.
- Limit the use of pesticides to what is absolutely needed to control invasive weed species.

## 2 25-75 FEET TRANSITIONAL ZONE

This area lies between upland development and the overbank zone, and is important in filtering stormwater runoff and absorbing pollutants. Contains mature native forest and vegetation.

- Design low-impact landscaping, which reduces maintenance requirements and less need for pesticide and fertilizer.
- Reduce the use of turf and impervious surfaces such as concrete and asphalt paving.
- Create vegetative buffers to filter runoff from roofs, drives and roadways.

## 3 75-100 FEET UPLAND ZONE

This is an area for actively managed landscapes or natural conditions, which allows water to slowly filter into the ground.

- Lawn, garden, and compost wastes can be stored here, and stormwater BMPs may be installed, but this zone should be left as undisturbed as possible in order to optimize the value of the riparian buffer.
- Minimize turf areas to what is truly needed. Avoid siting any impervious surfaces in this zone.

# WHAT TO PLANT

The Rocky Mountains are home to numerous native plant species. These plants are adapted to the highly variable climate and micro-climates found in mountain habitats. This list offers recommendations for areas along Gore Creek, as well as upland and transitional zones away from the water's edge. These plants can be used in

ornamental landscape plantings as buffers between landscaped and native areas or in native habitat restorations. Planting a variety of species provides biodiversity, which protects against pest outbreaks and provides important habitat for native fauna—all key components in improving water quality in Vail.



Thin-leaved Alder



Twinberry Honeysuckle



Bog Birch



Harebells



Cow Parsnip



Western Blue Flag



Tufted Hairgrass



Slender Wheatgrass



Baltic Rush

COMMON NAME	SCIENTIFIC NAME	HEIGHT	SPREAD
<b>OVERBANK: TREES/SHRUBS</b>			
Thin-leaved Alder	<i>Alnus incana</i>	15-30'	15-20'
Bog Birch	<i>Betula grandulosa</i>	3-6'	3-8'
Red-twig Dogwood	<i>Cornus sericea</i>	6-8'	8-12'
Twinberry Honeysuckle	<i>Lonicera involucrate</i>	3-5'	3-6'
Narrow-leaved Cottonwood	<i>Populus angustifolia</i>	30-50'	20-30'
Lance-leaved Cottonwood	<i>Populus x acuminata</i>	40-60'	30-40'
Drummond's Willow	<i>Salix drummondiana</i>	6-12'	6-12'
Coyote Willow	<i>Salix exigua</i>	6-12'	4-8'
Yellow Mountain Willow	<i>Salix monticola</i>	8-12'	6-8'

COMMON NAME	SCIENTIFIC NAME
<b>OVERBANK: FORBS</b>	
Monkshood	<i>Aconitum columbianum</i>
Marsh Marigold	<i>Caltha leptosepala</i>
Harebells	<i>Campanula rotundifolia</i>
Chiming Bells	<i>Mertensia ciliata</i>
Cow Parsnip	<i>Heracleum maximum</i>
Western Blue Flag	<i>Iris missouriensis</i>

COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION
<b>OVERBANK: NATIVE SEED MIX</b>		
Tufted Hairgrass	<i>Deschampsia caespitosa</i>	20%
Streambank Wheatgrass	<i>Elymus lanceolatus</i>	20%
Slender Wheatgrass	<i>Elymus trachycaulus</i>	15%
Big Bluegrass	<i>Pos secundiflora</i>	5%
Western Wheatgrass	<i>Pascopyron s mithii</i>	15%
Fowl Bluegrass	<i>Pos palustris</i>	20%
Baltic Rush	<i>Juncus balticus</i>	5%





Rabbitbrush



Quaking Aspen



Boulder Raspberry



Native White Fir



Rocky Mountain Juniper



Lodgepole Pine



Rocky Mountain Columbine



Silvery Lupine



Pussytoes



Mountain Bromegrass



Sandberg Bluegrass



Tufted Hairgrass

COMMON NAME	SCIENTIFIC NAME	HEIGHT	SPREAD
<b>UPLAND: DECIDUOUS TREES/SHRUBS</b>			
Rocky Mountain Maple	Acer glabrum	20-30'	10-20' <i>(smaller in Vail)</i>
Saskatoon Serviceberry	Amelanchier alnifolia	6-20'	6-12'
Rabbitbrush species	Chrysothamnus nauseosus	2-6'	2-6'
Potentilla or Cinquefoil	Pentaphylloides floribunda	2-3'	2-3'
Quaking Aspen	Populus tremuloides	20-50'	20-30'
Native Chokecherry	Prunus virginiana melanocarpa	8-20'	8-12'
Wax Currant	Ribes cereum	2-4'	2-4'
Woods Rose	Rosa woodsii	3-6'	3-6'
Boulder Raspberry	Rubus deliciosus	3-6'	3-6'
Thimbleberry	Rubus parviflorus	3-5'	4-6'
Red-berried Elder	Sambucus pubens	4-12'	4-12'
Snowberry	Symphoricarpos albus	3-5'	3-5'

COMMON NAME	SCIENTIFIC NAME	HEIGHT	SPREAD
<b>UPLAND: EVERGREEN TREES</b>			
Native White Fir	Abies concolor	40-60'	20-30'
Rocky Mountain Juniper	Juniperus scopulorum	20-30'	8-12'
Engelmann Spruce	Picea engelmannii	40-60'	
Colorado Blue Spruce	Picea pungens	40-60'	
Bristlecone pine	Pinus aristata	10-20'	
Lodgepole pine	Pinus contorta latifolia	50-70'	10-15'
Douglas-fir		50-80'	

COMMON NAME	SCIENTIFIC NAME
<b>UPLAND: FORBS</b>	
Rocky Mountain Columbine	Aquilegia caerulea
Rocky Mountain Penstemon	Penstemon strictus
Richardson's Geranium	Geranium richardsonii
Silvery Lupine	Lupinus argenteus
Aspen Daisy	Erigeron speciosus
Sulphur Flower	Eriogonum umbellatum
Pussytoes	Antennaria rosea

COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION
<b>UPLAND: NATIVE SEED MIX</b>		
Streambank Wheatgrass	Elymus lanceolatus	20%
Mountain Bromegrass	Bromus marginatus	20%
Slender Wheatgrass	Elymus trachycaulus	15%
Blue Wildrye	Elymus glaucus	5%
Big/Canby Bluegrass	Poa secunda	5%
Rocky Mountain Fescue	Festuca saximontana	5%
Sandberg Bluegrass	Poa secunda	5%
Prairie Junegrass	Koeleria cristata	5%
Tufted Hairgrass	Deschampsia caespitosa	5%

