

# Rooftop and Rain Gardens

## Plants on Rooftops?

- Rooftops are overlooked as available space in our landscapes
- Green roof systems have been researched over decades
- Green roofs are viable in all climates, including Colorado



## Green Roof Rational

- As urbanization consumes more land, impervious surfaces also increase
  - Issues emerge which *were* insignificant:
    - The need to manage stormwater, The urban heat island effect, Loss of arable land
  - Mitigation? Vegetation

## Types of Green Roofs

- Intensive or Rooftop Garden
  - Deep substrate (>6")
  - More like raised beds
  - Diverse
- Extensive or Ecoroof
  - Shallow (<6")
  - Lightweight
  - Retrofit

## Green Roof Basics

- Substrate
  - Engineered
  - Rarely any 'real' soil
  - Mostly expanded aggregate
- Plants
  - Succulent groundcovers
  - Predominantly *Sedum* spp.
  - Many experimental

## Plant Details

- Growth habit
- Groundcover
- Accent plant
  - Plant Categories
- Annuals
- Herbaceous perennials

## Succulents

## Grasses

- Evergreen/winter interest
- Shallow, fibrous rooted

## Not tap rooted

- Drought tolerant

## How can Rooftops Help CO Flora?

- Ideal places for rare plants
- Designed for specific species
- Invasive weed issues are rare
- Little predation or foot traffic
- Several models exist in Europe
- Urban corridors for pollinators
- Designed as habitats for fauna
- Increase natives in landscapes

## Green Roof References

- Green Roofs for Healthy Cities: [greenroofs.org](http://greenroofs.org)
- [greenroofs.com](http://greenroofs.com)
- *The Green Roof Manual* by Snodgrass & McIntyre
- *The Professional Design Guide to Green Roofs* by Dakin, Benjamin, and Pantiel
- *Planting Green Roofs and Living Walls* by Dunnett & Kingsbury
- *Green Roof Plants* by Snodgrass & Snodgrass

## NOTES:

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## Colorado Native Plants for Rain Gardens

### **Lowest Tier (intermittent saturation)**

#### Shrubs:

- Rocky mountain maple (*Acer glabrum*)
- Red-osier dogwood (*Cornus sericea*)
- Chokecherry (*Prunus virginiana*)
- Boulder raspberry (*Rubus deliciosus*)
- Snowberry (*Symphoricarpos occidentalis*)

#### Herbaceous:

- Swamp milkweed (*Asclepias incarnata*)
- Showy milkweed (*Asclepias speciosa*)
- Marsh sunflower (*Helianthus nutallii*)
- Wild iris (*Iris missouriensis*)

#### Grasses:

- Big bluestem (*Andropogon gerardii*)
- Prairie cordgrass (*Spartina pectinata*)
- Alkali sacaton (*Sporobolus airoides*)
- Native Sedges (*Carex* sp.)

### **Middle Tier (mesic)**

#### Shrubs:

- Rocky mountain maple (*Acer glabrum*)
- Leadplant (*Amorpha fruticosa*)
- Red-osier dogwood (*Cornus sericea*)
- Creeping mahonia (*Mahonia repens*)
- Chokecherry (*Prunus virginiana*)
- Golden current (*Ribes aureum*)
- Boulder raspberry (*Rubus deliciosus*)
- Three-leaf sumac (*Rhus trilobata*)
- Snowberry (*Symphoricarpos occidentalis*)

#### Herbaceous:

- Common yarrow (*Achillea lanulosa*) aggressive
- Poppymallow (*Callirhoe involucrata*)
- Blanket flower (*Gaillardia aristata*)
- Bee balm (*Monarda fistulosa*) aggressive
- Black eyed Susan (*Rudbeckia hirta*)

#### Grasses:

- Blue grama (*Bouteloua gracilis*)
- Side-oats grama (*Bouteloua curtipendula*)
- Indian ricegrass (*Oryzopsis hymenoides*)
- Little bluestem (*Schizachyrium scoparium*)

### **Highest Tier (driest)**

#### Shrubs:

- Rocky mountain maple (*Acer glabrum*)
- Leadplant (*Amorpha fruticosa*)
- Mountain mahogany (*Cercocarpus montanus*)
- Red-osier dogwood (*Cornus sericea*)
- Chokecherry (*Prunus virginiana*)
- Golden current (*Ribes aureum*)
- Buffaloberry (*Shepherdia argentea*)
- Snowberry (*Symphoricarpos occidentalis*)

#### Herbaceous:

- Almost any Colorado native prairie plant!
- Most *Penstemons*
- Rocky mountain bee plant (*Cleome serrulata*)
- Purple prairie clover (*Dalea purpurea*)
- Little sunflower (*Helianthus pumilus*)
- Wild blue flax (*Linum lewisii*)
- Prairie coneflower (*Ratibida columnifera*) there are reds and yellows

#### Grasses:

- Blue grama (*Bouteloua gracilis*)
- Buffalograss (*Buchloe dactyloides*)
- Indian ricegrass (*Oryzopsis hymenoides*)
- Little bluestem (*Schizachyrium scoparium*)

### **Rain Garden References**

- *Rain Gardens* By Nigel Dunnett & Andy Clayden
- *Field Guide to Colorado's Wetland Plants* By Denise Culver and Joanna Lemly.
- *Native Plant Revegetation Guide for Colorado* By David Bucker et al, Colorado Department of Natural Resources
- [swbiodiversity.org](http://swbiodiversity.org) SEINet

### **NOTES:**