

Design Guide



Chapter 3: Dry Shade April 2024

An Introduction to Diversifying Urban Landscapes in Fort Collins

Acknowledgments

City of Fort Collins

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Design Guide:

An Introduction to Diversifying Urban Landscapes in Fort Collins

Introduction

Overview of the Guide

The purpose of this guide is to showcase a wide variety of diverse urban landscape options in Fort Collins. This guide will help you determine which landscape options are best for you, whether you are a homeowner, renter, business owner, school, developer, or part of a Homeowners Association. The overarching goal is to provide inspiration for your next dream landscape.

The examples in this guide apply to Northern Colorado Front Range ecosystems, however the context may be appropriate for projects in other regions, as well.

In this guide, you will find an introduction and the main considerations needed for installing each landscape option. Tips for design, installation, and maintenance are included in each chapter. In addition, each landscape option comes with its own curated plant list to help you select plants that will thrive in your landscape.

[Thank you for creating diverse, beautiful, and resilient landscapes!](#)

Why Diversify Landscapes?

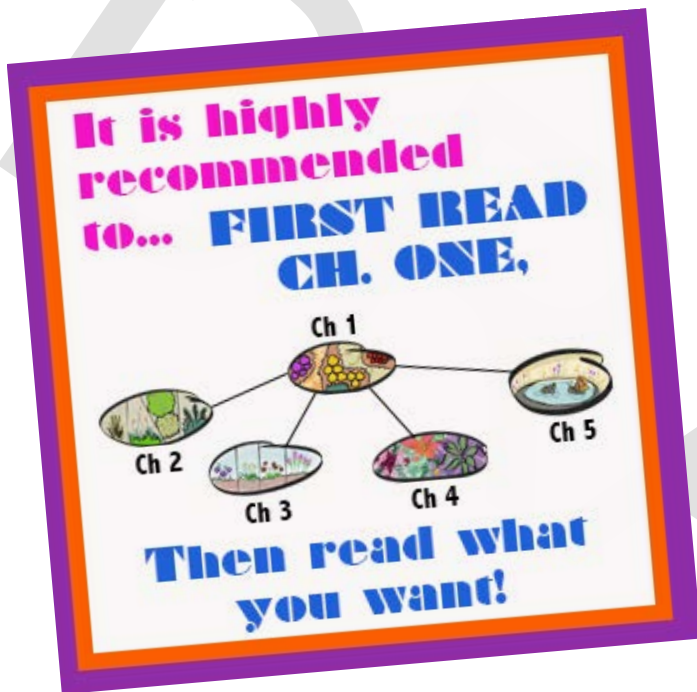
Diverse landscapes are beautiful and resilient. They contain a variety of native and adapted species that provide important habitat and resources for wildlife and pollinators. They are naturally adapted to the Front Range's semi-arid climate and native soils, which translates to lower water and chemical inputs, and a better ability to withstand short- and long-term changes in climate. They invoke a Colorado landscape aesthetic and establish a sense of place. Spending time in them benefits our physical and mental health. In short, moving towards diverse landscapes is more sustainable and brings nature into the city, which provides considerable ecological, economic, and social benefits.

The use of plants that are native to Colorado is highly encouraged when you diversify your landscape. Native plants have evolved here and are adapted to our climate and soil types. In addition, our local pollinators and wildlife co-evolved with these plants and many are dependent on specific native plant species for survival. As such, native plants form the base of local food webs. However, it is also important to recognize that native plants may not be appropriate in all situations, e.g., your aesthetic preferences, the level of activity on site, HOA policies.



Navigating the Guide

This guide is broken into chapters (see Table of Contents), which primarily revolve around different landscape options (e.g., Pollinator Gardening, Lw Water Lawn). The guide also includes chapters on other relevant landscaping topics (e.g., Soil Amendment, Weed Management). It is highly recommended to start with Chapter One – Site Characteristics and Planning.



Within each chapter, you will find information on the following (when applicable):

- Overview of topic
- Physical requirements
- Design examples or case studies
- Irrigation
- Maintenance
- Plant list
- Additional resources
- Installation tips
- Fun fact!

FUN FACT

Converting your yard from turf to a xeriscape and or native garden is **On TREND!**

Over 390 residential projects in Fort Collins were granted Xeriscape Incentive Program (XIP) funding for a total of 462,100 square feet of converted landscape. That is 10 acres or approximately 7.5 football fields!



fcgov.com/xip

Definitions

Adapted Species	Non-native species that grow well in a given habitat with human adjusted changes to the environment such as water or nutrients.
Aggregate	A material or structure formed from a loosely compacted mass of larger soil or rocks.
Aspect	The direction the land is facing. eg: north, south, northeast etc.
Cues to Care	(CTC) are landscape elements that are immediately recognizable as designed, and that signal continuing human presence to care for a landscape.
Complementary Colors	Colors opposite from each other on the color wheel. They have a strong contrast that increases how noticeable they are when placed close together.
Exotic Plants	Plants not native to the area where they are planted.
Forb	A herbaceous flowering plant that is not a grass.
Hydrozone	Areas where plants with similar water needs are grouped together - very low water, low water, medium water, and high water plants should be grouped by water needs.
Impervious Surface	A hard surface that does not let water soak into the ground, causing puddling or resulting in runoff.
Larval Host Plants	Plants required for the growth and development of insect larvae such as caterpillars. Butterflies are often particular about the species where they host their eggs to support the larva.
Microclimate	Small areas that have a different climate than the overall climate of a site. They can be created by structures, topography, water, boulders, and impervious surfaces.
Native Plant	A plant species that grew in an area before colonization of that area.
Organic Matter	Any of the carbon-based compounds that exist in nature or material that comes from living things. This can include carbon-rich soils, manure, mulch, or compost.
Perennial	Any plant that persists for several years, usually with new herbaceous growth from a part that survives from growing season to growing season.
Permaculture	Permaculture stands for permanent agriculture. It uses whole systems thinking to create spaces for planting that encourages naturally flourishing ecosystems.
Pruning	Selective removal of certain parts of a plant such as branches, buds, or roots.
Resilient	Ability to bounce back after experiencing a setback.
Slope	A surface of which one end is at a higher level than the other; a rising or falling surface.
Soil Amendment	Anything that is added to a soil to improve water retention, nutrients, or drainage.
Xeriscape	Principles of sustainable design including use of low water plants, and sustainable gardening techniques.

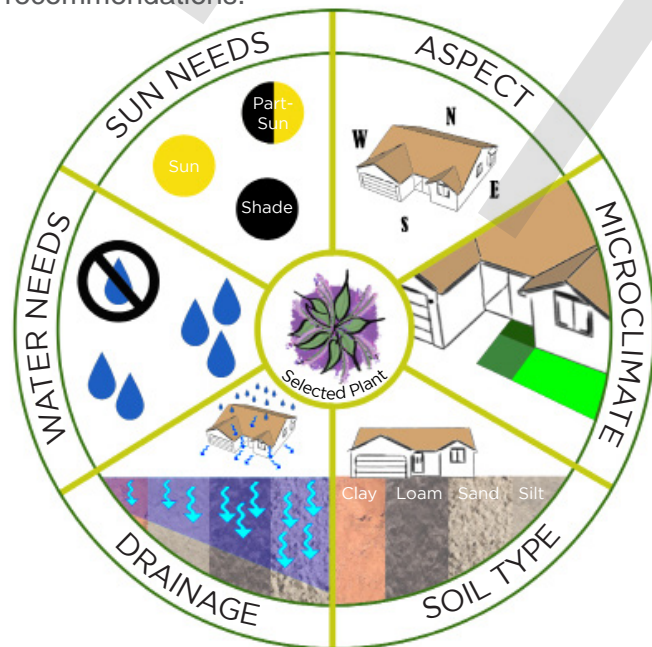
Chapter 3

Dry Shade Gardening

Dry shade can be one of the trickier spots to garden in, but with careful attention to your site's characteristics and by selecting well-adapted plant species you can create a beautiful and functional landscape. When planning a dry shade garden, consider how many hours of sun and what type of shade your site gets. When planning your garden some other factors to consider are soil type, the site's aspect, drainage, soil moisture, existing trees and any microclimates within the space. Identifying these factors will help you choose plants that are well adapted to the conditions in your garden.

Hot Tips for Dry Shade

- Use mostly native plants that are adapted to low water. If you want to increase biodiversity in your yard, check out this list of key plant genera to include by the National Wildlife Foundation.¹
- Figure out what type of shade you have: full shade or part-sun. Find which plants work best in these conditions using our plant list on page 17-23 or by searching the City of Fort Collins Vegetation Database.²
- Topdressing your garden with mulch and plant-based compost can help conserve water and improve soil moisture in very dry sites.
- Non-native species can sometimes be aggressive and have the potential to be invasive. We have recommended some non-aggressive, non-native plants on our plant list at the end of this chapter. The City of Fort Collins Vegetation Database² also has additional recommendations.



1. <https://www.nwf.org/-/media/Documents/PDFs/Garden-for-Wildlife/Keystone-Plants/NWF-GFW-keystone-plant-list-ecoregion-9-great-plains.ashx?la=en&hash=D93EC537B17AF4BEA41B4CC0149413C15A46CC29>

2. <https://www.fcgov.com/vegetation/>

Factors to Consider When Selecting Plant Species

When choosing plants for your garden, you will want to consider the following: how much sunlight the site gets, the soil type, the site's aspect, drainage, and any microclimates within the space. Identifying the conditions of your site will help you choose plants that are well adapted to those conditions and so they can thrive in your prospective garden. See Chapter 1 for more information on Site Characteristics.

Sun Requirements: Full Shade, Part Sun

Full Sun: 6+ hours of direct sunlight per day

Part Sun: 3 – 6 hours of direct sunlight per day

Shade: Less than 3 hours of direct sunlight per day

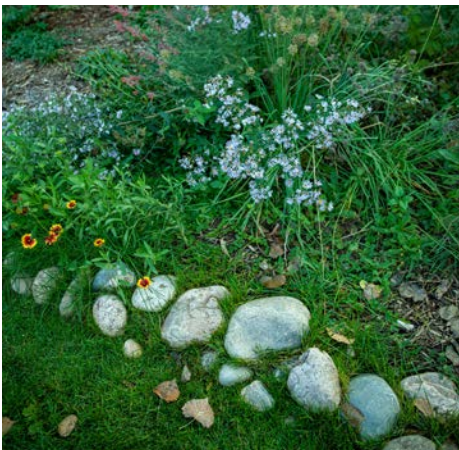
Aspect: Any aspect can have shade. North aspects may have cooler shade, while other aspects may receive more light which Part Sun plants may be able to tolerate.

Water: Very Low to Moderate

Microclimates: Dry Shade is typically going to have a cooler microclimate due to the amount of shade or aspect of the site. Plant species that like cooler conditions or shade in these microclimates, such as kinnikinnick (*Arctostaphylos uva-ursi*), cut-leaved anemone (*Anemone multifida*), or Oregon grape (*Berberis repens*).

Soils: The soil under trees is variable and likely influenced by how you manage the leaves or needles that fall from the tree. Leaving these materials to decompose will build up more organic material in your soil.

Drainage: Trees will change how precipitation falls on your site – likely creating drier spots underneath them and potential wet areas at the edge of the crown. Buildings may cause snow drifts depending on their aspect. Observe how water moves on your site. Areas where building drain spouts daylight into landscape beds will create wetter areas during times of precipitation.



What Type of Shade Do You Have?

There are two types of shade- full shade and part sun. Within these groupings you can also have nuances depending on what is casting the shade. Solid structures and dense tree canopies can create deep shade with no direct light, while trees with more open canopies let light filter through and create dappled shade. To understand what type of shade you will be working with: observe the site over the course of a sunny summer day and throughout other

seasons, if possible, to determine how much sunlight it receives throughout the day during different times of the year. Understanding what type of shade is in your yard will help you choose plants that can thrive in these spaces.

- **Part Sun:** 3 – 6 hours of direct sun light per day
- **Shade:** Less than 3 hours of direct sun light per day



Deep Shade

Evergreen trees tend to have year round shade because they have dense foliage and do not drop their needles, very little light can get through

Shade plants will tolerate deep shade

Dappled Shade

Deciduous trees have thinner canopies and have seasonal shade because they lose leaves during the cooler months allowing more light and water to reach the earth below

Part Sun and Shade plants will do well in dappled shade

Shade Type and Aspect

Shade can be created by trees or human-made structures like buildings, walls, or fences.

- East facing sites will get more gentle morning sun and depending on the length of exposure part sun plants do best here.
- West and south facing gardens will get the intense afternoon sun and frequently do best with full sun plants, even if they are shaded in the morning hours.
- North facing structures or dense evergreen trees can create areas that receive little to no sun throughout the day and frequently have a cooler microclimate. These sites will do best with full shade and part sun plants that don't need as much light.

Shade cast by trees can differ depending on the type of tree, the density of its canopy, how much water it uses, when the species leaf-out in the spring, and whether it has a deep or shallow root system. Evergreen trees provide year-round shade while deciduous trees provide seasonal shade because their leaves drop in winter. Deciduous trees that have thinner canopies, that leaf-out later or that have deeper root systems tend to be easier to grow under because they create dappled shade and allow for more light and water to reach understory plants. Deep rooted trees like Kentucky coffee tree (*Gymnocladus dioicus*), oak (*Quercus* spp.), hackberry (*Celtis* sp.) and the golden rain tree (*Koelreuteria paniculata*) are some species in our region that are easier to grow plants under for these reasons. Trees that have shallow root systems, that need large amounts of water or that have dense canopies are more difficult to grow under. Trees with these characteristics include spruce (*Picea* spp.), willows (*Salix* spp.), cottonwood (*Populus* spp.), and crabapple (*Malus* spp.).

Part Sun West Side

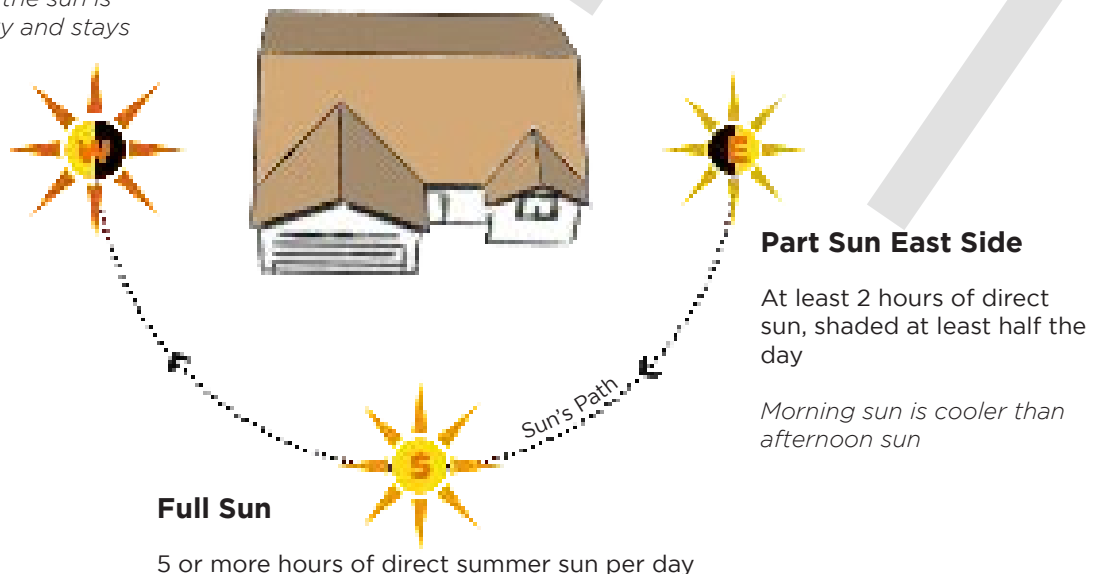
3-5 hours of direct sun in the summer

In the summer, the sun is higher in the sky and stays out longer

Shade

Less than 1 hour of sun or dappled shade most of the day

Can be caused by trees or north sides of buildings, fences



Reducing Shade and Increasing Moisture

If you have trees that are difficult to grow under due to dense canopies, high water consumption, or dense root systems, it is possible to improve growing conditions by increasing soil moisture and reducing the amount of shade.

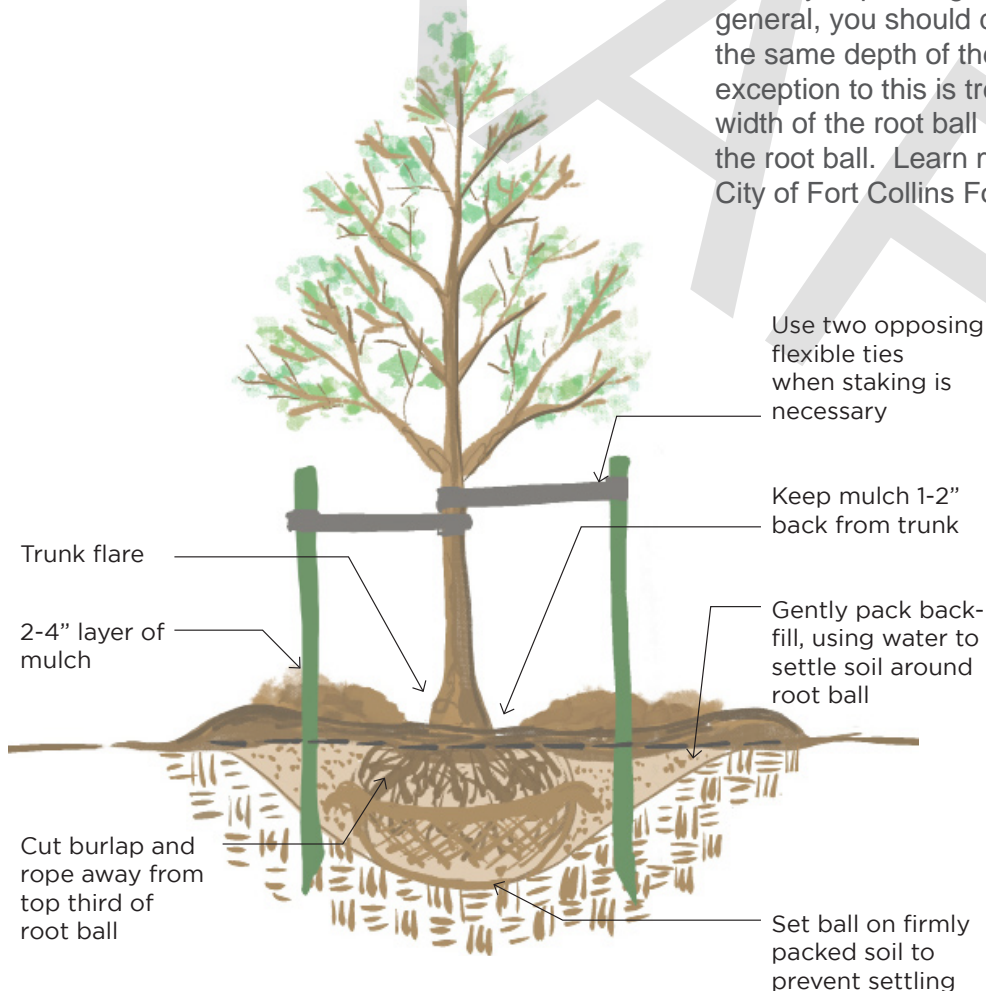
You can increase soil moisture in the area with irrigation, passive rainwater harvesting, mulching, or amending the soil. Many shade or woodland plants are adapted to soils with organic matter so adding plant-based compost and/or fall leaves can have beneficial effects.

If your deciduous shade trees have dense canopies, you can reduce the amount of shade by thinning the canopy with selective pruning or raising the canopy to let more light in. If you don't have experience pruning trees, a professional arborist can help.³

Installation Tips

Getting your plants in the ground is not quite as simple as digging a hole and dropping them in. Here are a few tips that will help your plants have a smooth transition into your landscape.

- Before planting, make sure you get a soil test done. You may need to amend your soil before planting so that it can support your plants.
- Plant in the morning or evening; avoid planting during the hottest part of the day as this will stress your plants. Similarly, try to avoid planting during peak heat months, such as July and August. It is best to plant in the spring around late May or in the early fall before the ground freezes.
- Water your plants before you put them in the ground and again after you put them in. Transplanting is stressful and they will do better if they are well hydrated.
- The width and depth of the hole you're planting will vary depending on what you are planting. In general, you should dig a hole twice the width and the same depth of the pot your plant is in. The exception to this is trees, which should be 2-3x the width of the root ball and 1-3 inches shorter than the root ball. Learn more about tree planting at the City of Fort Collins Forestry webpage.⁴

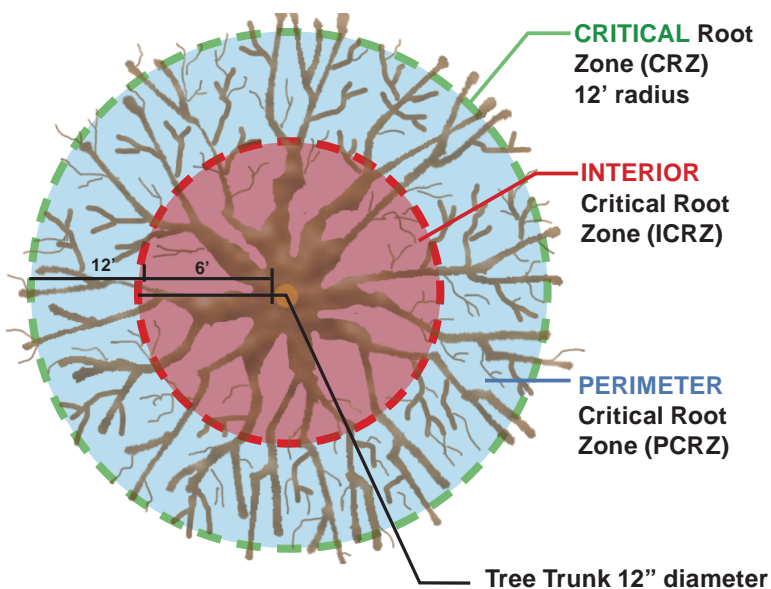


3. <https://www.fcgov.com/forestry/arborists.php>

4 <https://www.fcgov.com/forestry/arborists.php> <https://www.fcgov.com/forestry/planting-trees>

Special Considerations for Planting Near Trees

- Don't install raised beds under the canopy of an existing tree. Tree roots need oxygen and adding a significant amount of soil on top could reduce the tree's ability to breathe. You can add 2" of plant-based compost on top of your soil to amend it.
- When you install your garden, avoid disturbing the soil directly under tree canopies as much as possible.
 - Do not use a sod cutter in the critical root zone of the tree. *Diagram of critical root zone below.
 - Never cut tree roots that are more than 2" wide and don't cut more than 25% of a tree's root system.
 - Remove existing turf by hand digging, spraying it with tree safe herbicides, or sheet mulching.
 - Hand dig plant holes and choose the smallest plants available to minimize disturbance to the tree root system.
- If you do need to cut a tree root, cuts should be made using a sharp saw or appropriate hand tool so that extra root tissue is not damaged. Cuts should be smooth, flush and completed very quickly after the root exposure occurs. Once the root cutting is complete, immediately cover the exposed root issue with good soil and then water the area to avoid root dehydration.



MYTH BUSTER!

You may have heard that the needles from pine trees and evergreens can change the acidity of your soil and make it difficult to grow plants underneath these trees.

The truth is that pine needles won't change your soil acidity significantly.

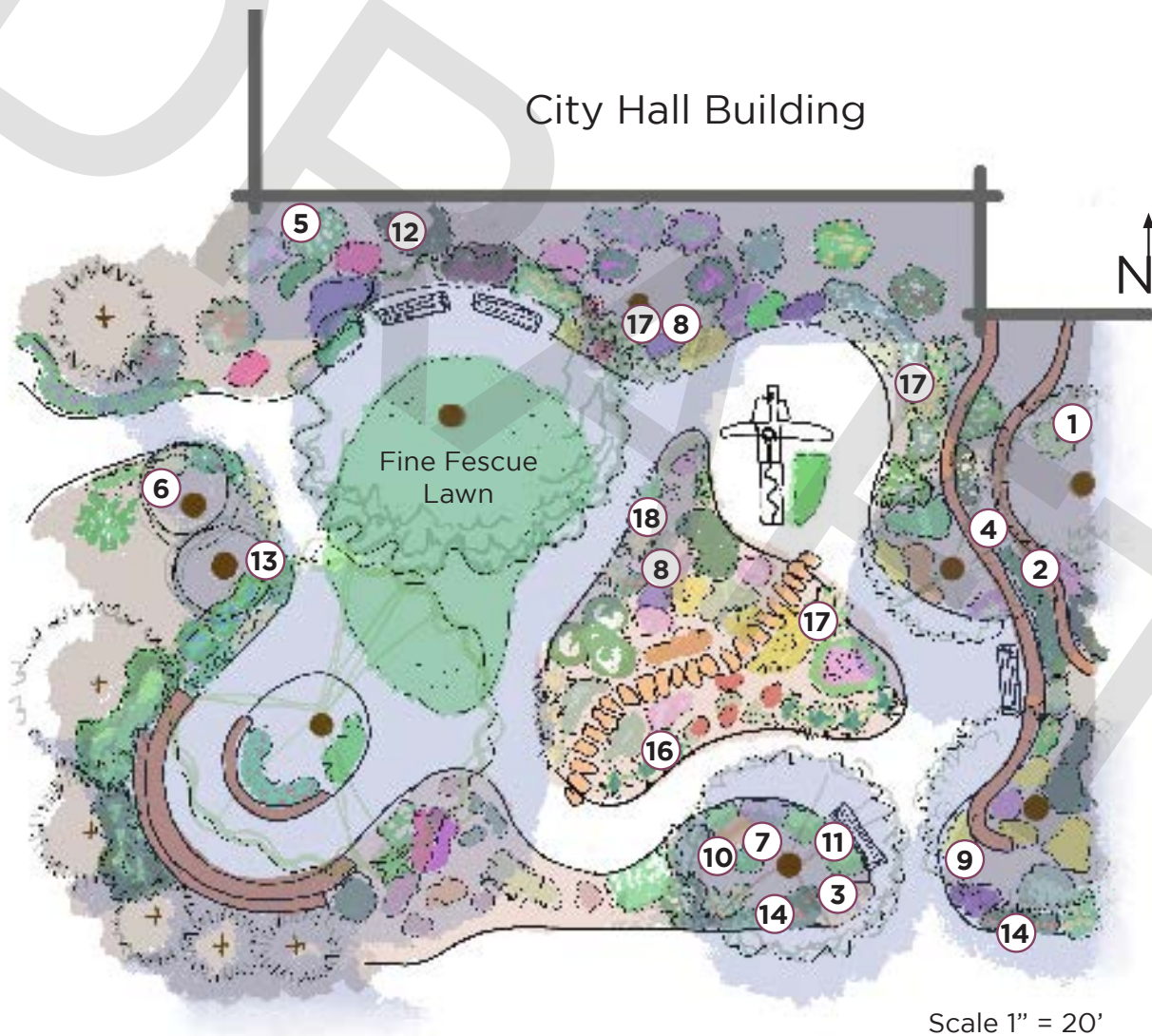
"If you are having difficulty growing other plants under your pine trees it is likely due to the fact that evergreen roots are numerous and shallow and compete for water and nutrients. The shady conditions under a tree can also make growing other plants a challenge."

– Amy Jo Detweiler, Oregon State University Extension horticulturist

Design Examples

Xeriscape Demo Garden Design

This is the Xeriscape Demonstration Garden. Installed 1986. Though the aspect is south facing, due to the many trees, this garden has mostly full shade and part shade planting beds. Not all plants have been labeled. You can visit the garden at 300 Laporte Ave, and access the downloadable brochure to see a full list of plants at the Fort Collins Utilities Xeriscape Garden Plant List.⁵



5. [https://www.fcgov.com/utilities/img/site_specific/uploads/Xeriscape_Garden_Plant_List_Brochure_KS3\).pdf](https://www.fcgov.com/utilities/img/site_specific/uploads/Xeriscape_Garden_Plant_List_Brochure_KS3).pdf)

Shrubs



1
Saskatoon
Serviceberry
*Amelanchier
alnifolia* var.
alnifolia



2
Panchito
Manzanita
*Arctostaphylos x
coloradoensis*
'Panchito'



3
Carol Mackie
Daphne
*Daphne x
burkwoodii*



4
Dwarf Wild Indigo
Amorpha nana



5
Cheyenne®
Mockorange
*Philadelphus
lewisii*



6
Colorado Blue
Columbine
Aquilegia coerulea



7
Dalmation Pink
Cranesbill
*Geranium
dalmaticum*



8
Aspen Fleabane
*Erigeron
speciosus*



9
Partridge Feather
*Tanacetum
densum* ssp.
amani



10
Sunset Hyssop
*Agastache
rupestris*

Groundcovers



11
Plumbago,
Leadwort
*Ceratostigma
plumbaginoides*



12
Creeping Oregon
Grape Holly
Berberis repens



13
Periwinkle
Vinca minor



14
Orange Carpet
Hummingbird
Trumpet®
Epilobium canum
ssp. *garetti*



15
Purple
Poppymallow,
Winecups
*Callirhoe
involucrata*

Grasses



16
Blue Fescue
Festuca glauca



17
Blonde Ambition
Blue Grama
Bouteloua gracilis
'Blonde Ambition'

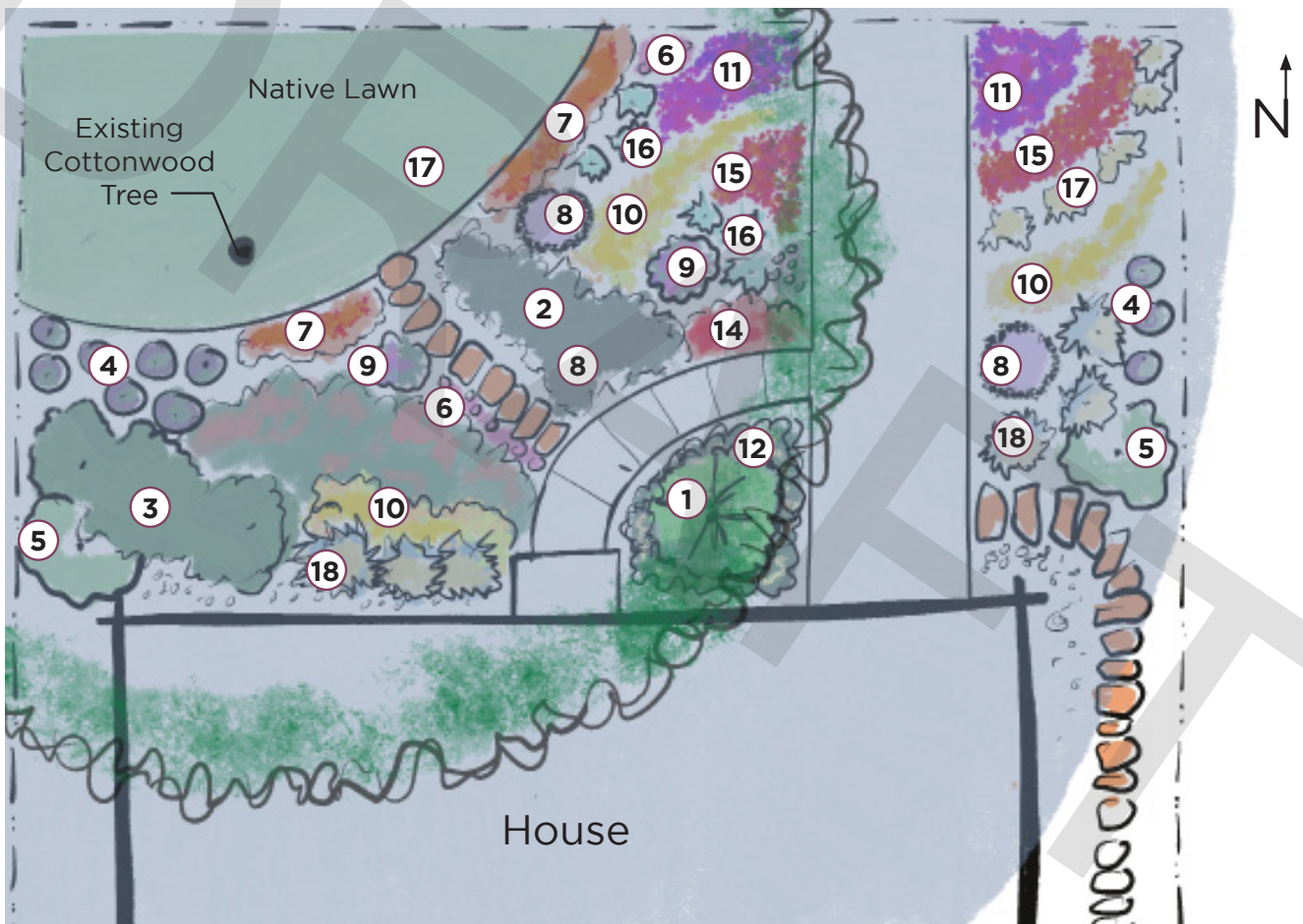


18
Little Bluestem
*Schizachyrium
scoparium*

Design Examples

Shade Garden Design

This north facing residential yard is shaded by a large existing cottonwood tree and has both full shade and part sun areas. Shade loving shrubs are paired with shade tolerant forbs. The part sun areas allow the plant palette to be expanded and the option of a native turf area.



Scale 1" = 10'

Shrubs



1
Saskatoon
Serviceberry
Amelanchier
alnifolia var.
alnifolia



2
Panchito
Manzanita
Arctostaphylos x
coloradoensis
'Panchito'



3
Golden Currant
Ribes aureum



4
Dwarf Wild Indigo
Amorpha nana



5
Cheyenne®
Mockorange
Philadelphus
lewisii



6
Prairie Smoke
Geum triflorum



7
Butterfly Weed
Asclepias
tuberosa



8
New England
Aster
Symphyotrichum
novae-angliae



9
Sonoran Sunset
Hyssop
Agastache cana
'Sinning'



10
Blackeyed Susan
Rudbeckia hirta

Groundcovers



11
Plumbago,
Leadwort
Ceratostigma
plumbaginoides



12
Creeping Oregon
Grape Holly
Berberis repens



13
Gro-Low Fragrant
Sumac
Rhus aromatica
'Gro-Low'



14
Orange Carpet
Hummingbird
Trumpet®
Epilobium canum
ssp. *garettii*



15
Purple
Poppymallow,
Winecups
Callirhoe
involucrata

Grasses



16
Blue Fescue
Festuca glauca



17
Blonde Ambition
Blue Grama
Bouteloua gracilis
'Blonde Ambition'



18
Little Bluestem
Schizachyrium
scoparium

Irrigation and Water Conservation

Dry shade gardens are typically dominated by plants adapted to a semi-arid climate and require less water than conventional landscaping. However, all plants need water to get established for the first growing season or during unusually hot weather or unusually dry conditions. Keep in mind because shade plants are not exposed to constant sunlight, they may retain moisture for longer, however, being located under other plants, trees or structures, means natural rain events may not reach them as easily. To avoid overwatering your garden, it is best to create and stick to an irrigation plan. Overwatering can kill low water plants by rotting their roots. A good irrigation plan outlines how much to water and provides a timeline to help you cut back on watering at the appropriate time. Once plants are established, watering should be infrequent and deep. The simplest way to water is using a hose, but you can also install drip irrigation to save time and reduce the amount of evaporation.

Even the best laid plans cannot address all contingencies, like excessive drought or heavy/prolonged rains. Therefore, the focus should be on results – if your plants are healthy above and below ground then your watering is likely appropriate. Frequent monitoring is key. Soil moisture monitoring devices are available to provide feedback but getting your fingers in the soil is an effective and easy way

to monitor moisture levels. It is important to check the soil moisture between watering and each time you water, to ensure you are not over or underwatering.



Is the ground moist 6 inches below the surface or only at the surface? It is best to water infrequently and deeply, soaking the soil 6 inches down. Deep, less frequent watering will encourage plants to root deeply and become more drought tolerant.

Example Irrigation Plan for Establishment of a Dry Shade Perennial Bed

	FREQUENCY	DURATION
Spring and Fall Planting	Once every 2-3 days	First 2 months
	Once every 7-14 days	As needed through growing season
Summer Planting	Once a day	Through peak heat
	Once every 2-3 days	Until the fall
	Once every week	Until the end of growing season

Plants should receive roughly the same volume of water as the size of the pot the plant came in, per watering event.

* Adjust as necessary given precipitation and condition of plants.

Native-dominant dry shade gardens typically require less maintenance once established but some maintenance is inevitable. Proper planning and installation can minimize required maintenance and increase the chances of long-term success. Please refer to Chapter 1 for garden planning fundamentals.

One mistake many new gardeners make is cleaning up their garden in the fall. Leaving your garden with leaves and dead plant material will help build your soil which is important for dry shade plants under trees and creates habitat essential to wildlife. Dead plant materials like plant stems and leaf litter are used by beneficial insects to overwinter or nest in. Wildlife like songbirds need insects in order to feed their young in the spring. Removing plant material in the fall or too early in the spring may expose overwintering insects to harsh spring conditions they will not be able to survive in. Wait until late May to start cleaning out your garden. Leaf litter will break down and help build organic matter in your soil. If you have gravel mulch in your gardens, it is recommended to remove leaves and compost them separately to prevent them from decomposing on top of the rock mulch.

Weed and Integrated Pest Management

Weeds and other garden pests can be managed in any landscape using Integrated Pest Management (IPM). IPM is a holistic approach to managing pests which can include insects, weeds, and diseases. IPM uses a variety of tools to prevent and control pest infestations using the least toxic methods possible. Reducing our use of chemicals helps prevent pesticide resistance and protects the health of humans and ecosystems. Refer to Chapter 7 for more information in IPM.

In small to medium sized gardens, the use of pesticides is discouraged since chemicals can be harmful to human health, as well as pets and non-target wildlife, especially pollinators. Hand weeding, mulching and mowing weeds are some sustainable options to suppress weeds in smaller gardens. To keep weeds from multiplying in future years it is important to remove weeds before they go to seed. If weeds go to seed, they should not be composted at home as home compost systems typically are not hot enough to kill weed seeds.

When working with larger pieces of land that have established or aggressive weed populations it may be necessary to use herbicide if you are not able to control weeds via mowing, biocontrol, or mechanical removal. When treating weeds with herbicide, it is important to properly identify each plant, so you know when you should spray and what herbicide you should use. The Larimer County Weed District (<https://www.larimer.org/naturalresources/weeds>) can provide advice on weed identification, management, and pesticides.



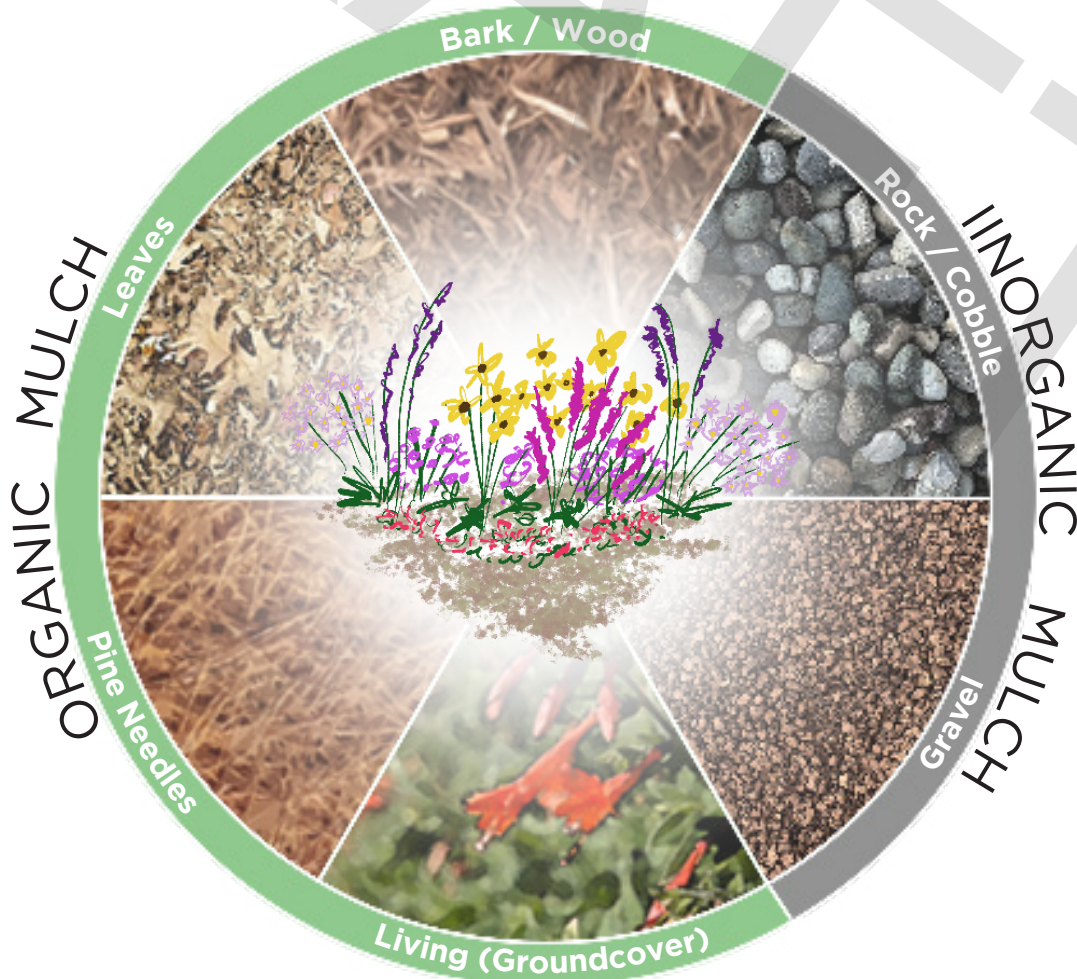
Mulching

Mulching is a critical practice for gardening to decrease soil temperature, suppress weeds, and conserve soil moisture. When adding mulch to new or existing plants, leave a buffer between the base/trunk of plants and mulch. This practice keeps the stems of plants dry and prevents rot. Weed barrier is not recommended, as it has a negative effect on soil quality and wildlife habitat. Weed barrier will also begin to degrade over time allowing weeds to root through it and will be difficult to remove.

There are two types of mulch you can use – organic and inorganic:

Organic mulches include shredded bark, wood chips, pine needles, shredded leaves, and living mulch. As organic mulch breaks down it will also help enrich the soil with organic matter and increase its ability to hold moisture. Living mulch is using spreading, perennial groundcovers to fill in open spaces in your garden. This practice suppresses weeds, retains moisture, and increases the plant biomass in your garden. We have recommended some non-native, non-aggressive groundcover plants on the plant list at the end of this chapter.

Inorganic mulches are rock or gravel. Rock and gravel mulch help eliminate run-off, by allowing fast falling rain to percolate quickly through to the soil. While mulching helps with water conservation and weed management, many native bees are ground-nesting species and require some patches of bare and/or minimally covered soil. You can help them out by not mulching (or only mulching to a depth of 1 inch) in a 6-12 inch circle around the trunk or stems of some plants. Or instead of mulching, consider ringing these bare earth patches with cobble if you'd like to draw attention to these areas and educate your neighbors as well as create some artistic interest.



Additional Resources

Planting the Dry Shade Garden by Graham Rice

Undaunted Garden by Lauren Springer

National Wildlife: www.nwf.org/Garden-for-Wildlife/About/Native-Plants/keystone-plants-by-ecoregion

Best Management Practices: Tree Pruning: <https://www.fcgov.com/forestry/pdf/tree-standards-3-31-10.pdf>

Fort Collins Arborist Companies: <https://www.fcgov.com/forestry/arborists.php>

Tree root pruning guidelines: <https://hort.ifas.ufl.edu/woody/root-prune-guidelines.shtml>

FUN FACT

The Bad News: Just over 3% of the plants in the Fort Collins Plant Database work well in dry shade

The Good News: That is over 43 different species to choose from.

Plants that grow in full shade in Northern Colorado are typically located in wet areas. However, with 43 full-shade, low water species listed in the database, you are sure to find a set of plants that works well for your dry shade project.



Oregon Grape (Berberis repens) by Ernie Marx

How to use the Plant Lists

Tree/ Shrub			

The plant lists are divided by plant types shown in the grey bar. They include Trees, Shrubs, Perennials, Groundcovers, and Grasses.

Scientific Name	Common Name
<i>Amelanchier alnifolia</i> var. <i>alnifolia</i>	Saskatoon Serviceberry

Scientific names include the genus, species, and sometimes subspecies or variety of the plant. These are listed to help identify exact species. Some common names can be used for multiple species with different characteristics such as bloom color, size, or habitat value. If you would like to learn more about a plant listed in a chapter, find the common or scientific name in the plant list to learn more about how it grows. For more information on plants that grow in Northern Colorado check out the digital plant database here: www.fcgov.com/vegetation/

Bloom Time	Scientific Name	Common Name	Nativity
TREE/SHRUB			
	<i>Amelanchier alnifolia</i> var. <i>alnifolia</i>	Saskatoon Serviceberry	FC
	<i>Arctostaphylos x coloradoensis</i> 'Panchito'	Panchito Manzanita	CO

Bloom Time			
A	B	C	D

The Bloom Time information is split into 4 columns, each showing the main color of the plant as it blooms throughout the year. Column A is early spring, exact timing depends on temperatures and precipitation of that year, but usually around April and May. Column B is the main plant color in early summer, late May and June. Column C represents the plant color in the heat of summer, July and August. Column D indicates the color in fall, typically September and October.

Nativity
FC

Nativity describes the closest location to Fort Collins where the plant grows natively.

FC= Fort Collins-(these plants grow native in Fort Collins).

CO= Colorado (these plants grow native somewhere in Colorado, but not Fort Collins).

US= United States (these plants grow native somewhere in the United States, but not Colorado).

Not Native= These plants are not native in the United States.

Height X Width
20'x12'

Height is the vertical measurement of a plant at maturity; width is the measurement of the spread (how wide) you can expect a plant to grow. (Measurements are listed in inches or feet)

Exposure
FS/PS

Exposure tells you how much sun the plant likes. If more than one exposure is listed, the plant will do well in multiple types.

FS= Full Sun
PS= Part Sun
S=Shade

Notes
Water during drought

Any additional helpful information about the plant that is not already listed in another category.

Height X Width	Water Needs	Exposure	Habitat Value	Notes	Programs
20'x12'	Low, Moderate	FS/PS	np/bee, bf; hp/bf; birds; wl	Water during drought	NIC
10"x3'	Very Low-Moderate	FS/PS	np/bee, bf; birds; wl	Needs good drainage; red twigs	NIC

Water Needs
Low, Moderate

Very Low- indicates a plant that requires 3 gallons of water per square foot per season in addition to precipitation.

Low- indicates a plant that requires 8 gallons of water per square foot per season in addition to precipitation.

Moderate- indicates a plant that requires 14 gallons of water per square foot per season in addition to precipitation.

High- indicates a plant that requires 18 gallons per square foot per season in addition to precipitation.

Habitat Value
np/bee, bf; hp/bf; birds; wl

Habitat value comes in many forms. Below is a key to describe what habitat values the plant provides. Sometimes a specific animal or insect type is described in the list such as "bee" or "bird".

np = nectar/pollen
bf = butterfly
hb = hummingbird
s = seeds
frt = fruit
hp = host plant
wl= wildlife

Programs
NIC

Programs hosted by the City of Fort Collins include Nature in the City (NIC) and the Xeriscape Incentive Program (XIP). Nature in the City focuses on plants native to Colorado and Fort Collins where XIP focuses on water savings. Plants listed with both XIP and NIC are supported by both programs.

Chapter 3 Dry Shade Plant List

When selecting plants, make sure that they meet your physical requirements and are appropriate for your space. The following is a list of plants, separated into what time of year they bloom. Pay attention to the exposure column where you'll find plants that can handle shade (S) and part sun (PS) as well as full sun (FS). This list is to help you get started – some of these plants may not be appropriate for your space and there are many more plants than these that are great for dry shade. You can find more information about plants suitable to our area on the [City of Fort Collins Vegetation Database](#).

Bloom Time	Scientific Name	Common Name	Nativity	Height X Width	Water Needs	Exposure	Habitat Value	Notes	Programs
	<i>Amelanchier alnifolia</i> var. <i>alnifolia</i>	Saskatoon Serviceberry	FC	20'x12'	Low, Moderate	FS/PS	np/bee, bf; hp/ bf; birds; wl	Water during drought	NIC
	<i>Arctostaphylos x coloradoensis</i> 'Panchito'	Panchito Manzanita	CO	10"x3'	Very low-Moderate	FS/PS	np/bee, bf; birds; wl	Needs good drainage; red twigs	NIC
	<i>Jamesia americana</i> var. <i>americana</i>	Cliffbush	FC	5'x3'	Low	PS/S	np/bee, bf	Prefers shaded roots; red twigs	NIC, XIP
	<i>Ribes aureum</i>	Golden Currant	US	4'x4'	Very low, Low	FS/PS/S	np/bee, bf; frt/ birds; wl	Bluish berries, fall color	XIP
	<i>Amorpha nana</i>	Dwarf Wild Indigo, Leadplant	CO	2'x2'	Very low, Low	FS/PS	np/bee, bf	Nitrogen fixer, deer tolerant	NIC
	<i>Philadelphus lewisii</i>	Cheyenne® Mockorange	US	5'x4'	Low	FS/PS	np/bee, bf	Plant Select; tolerates clay soil	XIP
	<i>Prunus americana</i>	American Plum	FC	10'x15'	Very low-Moderate	FS/PS	np/bee, bf; hp; frt/birds; wl	Thorns, tolerates clay soil	NIC, XIP
	<i>Ptelea trifoliata</i>	Common Hop-tree, Wafer Ash	CO	15' x15'	Very low, Low	FS/PS/S	np/bf; frt/birds; hp	Understory tree; Swallowtail host	NIC

Chapter 3 Dry Shade Plant List

Bloom Time	Scientific Name	Common Name	Nativity	Height X Width	Water Needs	Exposure	Habitat Value	Notes	Programs
	PERENNIALS								
	<i>Anchusa capensis</i>	Summer-Forget-Me-Not	Not Native	8"x8"	Moderate	FS/PS	np/bee, bf	Long blooming, deer tolerant	XIP
	<i>Aquilegia coerulea</i>	Colorado Blue Columbine	CO	6"x1'	Very low-Mod-erate	FS/PS/S	np/hp	Prefers compost loam soil	NIC
	<i>Geum triflorum</i>	Prairie Smoke	CO	4"x4"	Very Low, Low	FS/PS/S	np/bee, bf; wl	Readily seeds	NIC, XIP
	<i>Heuchera pulchella</i>	Sandia Coral Bells	US	8"x4"	Low*	FS/PS/S	np/bee, bf; n/hb	*when in shade; evergreen	XIP
	<i>Lamium galeobdolon 'Herрман's'</i>	Herман's Pride Archangel	Not Native	1'x1.5'	Moderate	PS/S	np/bee, bf	Silver green foliage, wildlife tolerant	XIP
	<i>Anemone multifida</i>	Cut-leaved Anemone	FC	1'x1'	Very low-Mod-erate	PS/S	np/bee, bf	Readily seeds	NIC
	<i>Asclepias tuberosa</i>	Butterfly Weed	US	1"x1'	Low	FS/PS	np/bee, bf; n/hb; hp/bf	Long blooming, deer tolerant	XIP
	<i>Geranium viscosissimum</i>	Sticky Purple Geranium	US	1'x1.5'	Very Low	FS/PS	np/bee, bf	Long blooming, fall color	XIP
	<i>Penstemon eatonii</i>	Firecracker Penstemon	CO	1'x1'	Very Low	FS/PS	np/bee, bf; n/hb	Handles rocky/sandy soil	NIC, XIP
	<i>Penstemon procerus</i>	Littleflower Penstemon	FC	6"x6"	Very low-Mod-erate	PS/S	np/bee, bf; n/hb	Good for rock gardens	XIP
	<i>Agastache foeniculum</i>	Blue Giant Hyssop	FC	1"x1.5'	Very low-Mod-erate	FS/PS	np/bee, bf; n/hb; wl	Rare plant, Long blooming, wildlife tolerant	XIP
	<i>Campanula rotundifolia</i>	Bluebell, Harebell	FC	4"x8"	Very low, Low	FS/PS	np/bee, bf; n/hb	Rock garden, deer tolerant	NIC, XIP
	<i>Rudbeckia hirta</i>	Blackeyed Susan	US	1'x1'	Low	FS/PS	np/bee, bf; s/ birds; wl	biennial, long blooming, deer tolerant	XIP

Chapter 3 Dry Shade Plant List

Bloom Time	Scientific Name	Common Name	Nativity	Height X Width	Water Needs	Exposure	Habitat Value	Notes	Programs	
	PERENNIALS CONTD.									
	<i>Symphoricarum novae-angliae</i>	New England Aster	CO	1'x6"	Very low-Mod-erate	FS/PS	np/bee, bf; hp/bee, bf	Likes acidic/low PH soil	XIP	
	<i>Erigeron speciosus</i>	Aspen Fleabane	FC	6"x1.5'	Very low, Low	FS/PS/S	np/bee, bf; hp/bee, bf	Can handle variable soil	NIC, XIP	
	<i>Tanacetum densum</i> ssp. <i>amani</i>	Partridge Feather	Not Native	4"x1.5'	Very low-Mod-erate	FS/PS	No data	Silver foliage, evergreen, wildlife tolerant	XIP	
	<i>Agastache cana</i> 'Sinning'	Sonoran Sunset® Hyssop	Not Native	1.5"x1.5'	Very low-Mod-erate	FS/PS	np/bee, bf; n/hb	Long blooming, deer/rabbit tolerant	XIP	
	<i>Salvia darcyi</i> 'Pscarl'	Vermillion Bluffs® Mexican Sage	Not Native	3x1.5'	Very low-Mod-erate	FS/PS	np/bee, bf; n/hb	Long blooming, deer tolerant	XIP	
	GROUNDCOVERS									
	<i>Arenaria</i> 'Wallowa Mountain'	Wallowa Mountain Desert Moss	US	1"x8"	Very low-Mod-erate	FS/PS	No data	Evergreen, winter interest, deer tolerant	XIP	
	<i>Berberis repens</i>	Creeping Oregon Grape Holly	CO	4"x1'	Low	FS/PS/S	np/bee; frt/birds	Evergreen w/blue berries, red in fall	NIC, XIP	
	<i>Lamium maculatum</i> 'White Nancy'	White Nancy's Spotted Dead-nettle	Not Native	6"x1'	Moderate	PS/S	np/bee, bf; birds	Deer/rabbit tolerant, neat foliage	XIP	
	<i>Veronica</i> 'Reavis'	Crystal River® Veronica	Non Native	2"x1.5'	Low, Moderate	FS/PS	No data	Winter interest, deer tolerant	XIP	
	<i>Epilobium canum</i> ssp. <i>garrettii</i>	Orange Carpet® Hummingbird Trumpet	US	4"x1.5'	Very low-Moderate	FS/PS	np/bf, hb	Hummingbirds love, good for rock gardens	XIP	
	<i>Callitriche involu-crata</i>	Purple Poppy-mallow,	FC	8"x4'	Very low-Mod-erate	FS/PS	np/bee, bf; n/hb	Readily seeds	NIC, XIP	

Chapter 3 Dry Shade Plant List

Bloom Time	Scientific Name	Common Name	Nativity	Height X Width	Water Needs	Exposure	Habitat Value	Notes	Programs
GROUNDCOVERS									
	<i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Fragrant Sumac	Not Native	1.5'x6'	Very Low, Low	FS/PS	np/bee, bf; birds	Fall color, Wildlife tolerant	XIP
	<i>Cerastostigma plumbaginoides</i>	Leadwort	Not Native	8"x1.5"	Low	FS/PS/S	np/bee, bf	Long blooming, fall color, tolerates clay	XIP
GRASSES									
	<i>Festuca glauca</i>	Flue Fescue	Not Native	10"x6"	Low, Moderate	FS/PS	No data	Bluish color, needs well drained soil	XIP
	<i>Bouteloua gracilis</i> 'Blonde Ambition'	Blonde Ambition Blue Grama	Native	2.5'x2.5'	Very low-Moderate	FS/PS	s/birds; hp/bf, moths	Host plant for skippers, deer tolerant	XIP
	<i>Schizachyrium scoparium</i>	Little Bluestem	US	2'x1'	Very low, Low	FS/PS	bee, bf; birds; wl	Host plant for skippers, deer tolerant	XIP
	<i>Chasmanthium latifolium</i>	Northern Sea Oats	US	2'x1.5'	Moderate	FS/PS/S	bee, bf; birds; wl	Attractive seed heads	XIP