

LANDSCAPING IN ARID CLIMATES

A GUIDE FOR LANDOWNERS, DEVELOPERS
AND LANDSCAPE ARCHITECTS IN THE
COLUMBIA RIVER BASIN

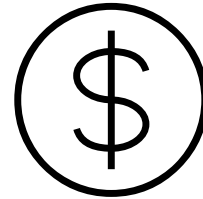
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THIS GUIDE WAS CREATED TO HELP LANDOWNERS, DEVELOPERS AND LANDSCAPE ARCHITECTS LEARN ABOUT COST EFFECTIVE STRATEGIES IN USING NATIVE AND DROUGHT TOLERANT SPECIES IN PUBLIC AND PRIVATE SPACES.



BIG SAVINGS + BEAUTY WHEN PLANTING NATIVES



WHY USE NATIVE PLANTS?



SAVE MONEY

Native plants are adapted to regional conditions meaning they require fewer inputs and maintenance over time. You could reduce your water costs by upwards of 60% by making the switch to native plants



BUILD RESILIENCE

Native plants are constantly adapting to the extremes they face in our climate. By increasing biodiversity in our urban spaces, we increase our resilience to extreme weather and the costs associated with it.



CREATE COMMUNITY

By planting natives, we're honoring the natural and cultural heritage of the lands we call home. It's the ultimate way to support the beauty, biodiversity and people of Eastern Washington

COST SAVINGS OF NATIVE + DROUGHT TOLERANT LANDSCAPES

- **No Soil Amendments Needed**
 - Native Species are adapted to local soil conditions meaning soils do not require amendments.
- **Big Water Savings**
 - Native plants are adapted to our local climate and precipitation cycles meaning less irrigation is needed for them to be successful. Switching to native plants and drip irrigation cuts water useage an estimated 75% compared to traditional lawns
- **Save Time + Money on Maintenance**
 - No landscaped area thrives with neglect; however, native plantings require substantially less time and energy than conventional plants. Choosing the right plant for the right space reduces maintenance time required.



**A 4X10 FT NATIVE
PLANTING SAVES AN
ESTIMATED 8,000
GALLONS OF WATER PER
YEAR COMPARED TO
CONVENTIONAL TURF**



COST EFFECTIVE STRATEGIES FOR PLANTING IN ARID CLIMATES



BEST TIME TO PLANT: OCTOBER– MARCH. WHY?

- October - March is when species naturally stop above ground growth and focus their energy on building strong roots.
- When the plants go dormant, (ie. above ground sleep for winter) they are less prone to reacting negatively to the stresses of transplanting.
- Most of our precipitation falls during this time period, meaning water is more readily available to newly planted species.
- Cool season planting allows plants to acclimate to their new home and establish themselves before the extreme temperatures of spring and summer.



CHOOSE REGIONALLY APPROPRIATE PLANTS

- Native and drought tolerant species suited to our region require less inputs and are adapted to stresses like heat and drought.
- Plants often used in conventional designs are suited for more temperate zones with much higher precipitation like the West Side or East Coast. Using these plants in our region sets them up to fail. Dead trees and shrubs = fire hazards



COST EFFECTIVE STRATEGIES FOR PLANTING IN ARID CLIMATES



SWITCH TO DRIP IRRIGATION

HAVE OVERSPRAY?
YOU'RE
OVERPAYING.



- Drip irrigation directs the water where you want it to go meaning less is wasted
- Weeds love overspray-- by switching to drip, you're less likely to have undesirable freeloaders pop up = less inputs from maintenance
- Already have a sprinkler system? Switching to drip is as easy as 1, 2, 3. Talk to you local drip irrigation specialist to make the switch

DRIP IRRIGATION GUIDE BY PLANT WATER NEEDS

Drip Irrigation		Hand Watering		How Often	Time
<i>Precipitation Range</i>	<i>Emitter Size</i>	<i>Oz</i>	<i>Cups</i>		
<10 inch water requirement	(0.5 GPH)*	8*	1 cup*	1-2 x a month	15 minutes
10-15 inch water requirement	0.5 GPH	16	2 cups	1x wk	15 minutes
15-20 inch water requirement	1.0 GPH	32	4 cups	1x wk	15 minutes
20-30 inch water requirement	2.0 GPH	64	8 cups	2x wk	30 minutes
>30 inch water requirement	Adjustable 0-10 GPH	320	up to 2.5 gal	2x wk	45 minutes

Watering deeply less frequently encourages plants to build strong, deep root systems as opposed to shallow roots near the surface of the soil. As a general rule, water new plantings at least once per week for the first couple seasons or as needed to help them establish. Once established, species requiring less than 10" should not need supplemental water, however, you can opt to water 1x every couple weeks to extend bloom times. As you get to know the plants in your space, you can adjust the watering times up and down based on the microclimate/plant health. Just remember, many of our shrub-steppe species survive and thrive with less and often don't respond well to being over watered.

* May elect to use drip irrigation on a temporary basis when planted in the fall through the first summer if longer blooming periods/ faster establishment is desired. If planted in the spring, some supplemental water will be required for establishment.



NATIVE PLANTINGS SUPPORT COMMUNITY HEALTH AND BUILD RESILIENCE



**GREEN SPACES ARE GOOD FOR
OUR MENTAL HEALTH.**



**LESS IRRIGATION SAVES WATER
KEEPING OUR LOCAL
WATERSHED HEALTHY**



**LESS MOWING + FERTILIZERS
MEANS LESS POLLUTION**



**CREATE A UNIQUE SENSE OF
PLACE WHILE SUPPORTING
LOCAL FLORA AND FAUNA**



**SUPPORT OUR FARMERS AND
ECONOMIC INTERESTS BY
CREATING POLLINATOR HABITAT**



**OUR YARDS AND LANDSCAPED SPACES CAN BE HUBS OF HOPE AND
RESILIENCE IN AN INCREASINGLY UNPREDICTABLE CLIMATE.**

OUR HOME THE SHRUB – STEPPE

Found in Eastern Washington and much of the Great Basin, the shrub steppe is one of the most diverse ecosystems in the world surviving and **thriving on less than 10" annual precipitation.**

Structure and resilience in the dry browns of Summer...

When you look out into the shrub-steppe in the heat of Summer, do you worry all the plants are dead? Don't be fooled, these plants are very much alive! In Summer, many of our species go dormant meaning they stop above ground growth and conserve resources until Fall when temperatures cool down and precipitation occurs. The dry browns of summer are a crucial strategy our plants have developed to survive drought and extreme temperatures.

What's in a Name...

'Steppe' comes from the Russian word for large open areas of treeless, arid grasslands. Unlike a desert, native bunchgrasses play a huge role in our local biome. Bunchgrasses and shrubs like sagebrush, are the backbones of our ecosystem, hence the name 'shrub-steppe.'

The Future of the Shrub-Steppe

An estimated 80% of historic shrub-steppe lands have been degraded or lost due to disturbances such as development and agriculture.



When we lose the ecosystem, we lose biodiversity and resilience that lies within them.

STEWARDSHIP IN OUR URBAN SPACES IS IN. BE PART OF THE SOLUTION.

Learn more about our shrub steppe flora from the
Columbia Basin Chapter of the Washington Native Plant Society
www.cbwnps.org
Facebook + Instagram: @cbwnps



**Columbia
Basin
Chapter**

Washington Native Plant Society

WHAT'S NEXT? – HAVE A PLAN!

STEP 1 – KNOW YOUR SPACE AND HAVE A PLAN

FREE PLANTING TEMPLATES ARE AVAILABLE ON THE HERITAGE GARDEN WEBSITE:
[HTTPS://WWW.HGCD.INFO/LANDSCAPE-DESIGN-TEMPLATES](https://www.hgcd.info/landscape-design-templates)

INTERESTED IN A CUSTOMIZED DESIGN? CONNECT WITH THE HERITAGE GARDEN PROGRAM OR SHARE THIS GUIDE WITH YOUR LANDSCAPE ARCHITECT

STEP 2– PREP YOUR SITE

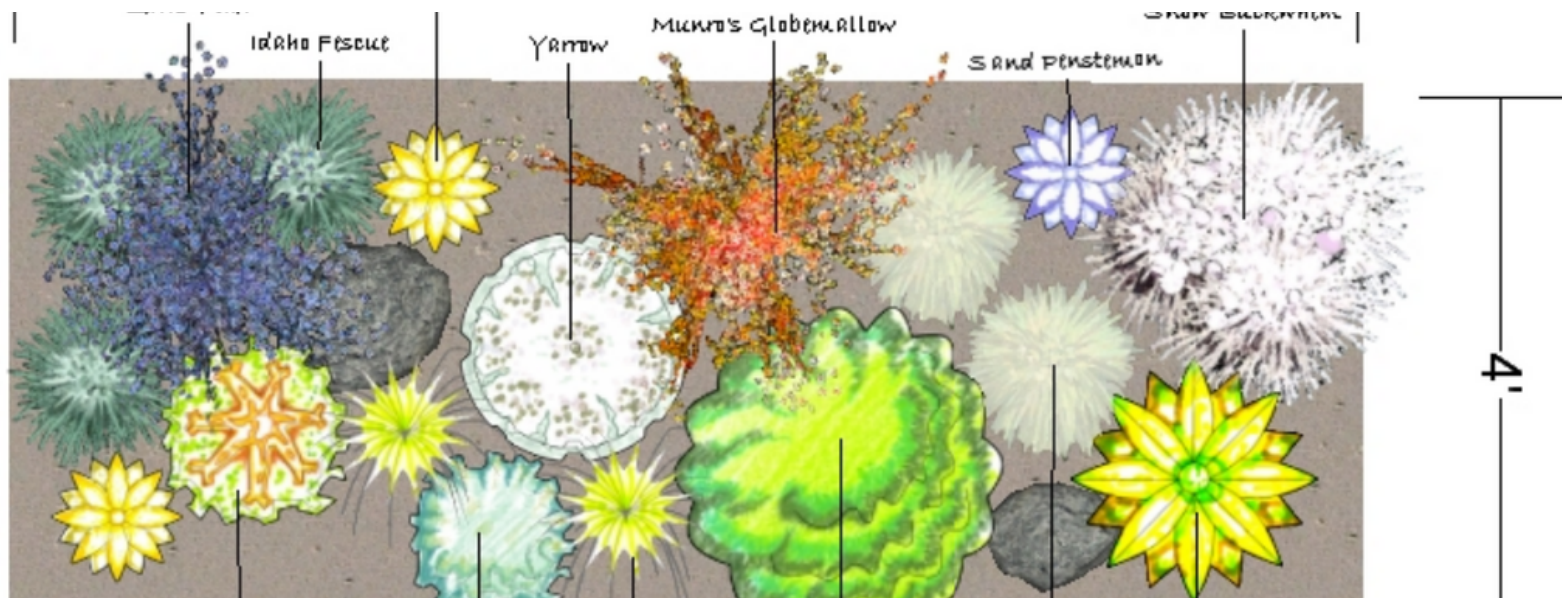
A WELL PREPARED SITE WILL PROVIDE HUGE SAVINGS IN MAINTENANCE DOWN THE ROAD. MANAGE WEEDS, LAY WEED BARRIER, ROCK MULCH AND INSTALL YOUR DRIP IRRIGATION. CONNECT WITH YOUR LOCAL NATIVE PLANT NURSERY TO FIND OUT PLANT AVAILABILITY

STEP 3– FALL PLANTING TIME!

REMEMBER, OCTOBER–MARCH IS THE BEST TIME TO PLANT! CONNECT WITH YOUR LOCAL LANDSCAPER TO SET UP AN INSTALLATION TIME. OR, YOU CAN ALWAYS DIY.

STEP 4– WAIT, WATCH AND ENJOY.

PATIENCE IS A VIRTUE. YOUR NEW NATIVE PLANTING WILL TAKE A COUPLE SEASONS TO REALLY SHINE. UNTIL THEN, SHARE WHAT YOU'RE DOING WITH YOUR COMMUNITY!



DROUGHT TOLERANT PLANTS SUITABLE FOR URBAN LANDSCAPES



SHRUB



PERENNIAL



GRASS



FULL SUN



PART SHADE



<10"



10-15"

YEARLY WATER NEEDS

THINK NATIVE PLANTS ARE DULL? THINK AGAIN.

Many native and drought tolerant plants are well suited for landscaped settings. Native species offer similar height, shape and texture as non-native cultivars. Here are a few of our favorite regionally appropriate plants and some suggestions on where to substitute them.



STAY ON THE WEST
SIDE CINQUOIL
FRINGED
SAGEBRUSH SUITS
US BETTER

FRINGED SAGEBRUSH *ARTIMESIA FRIGIDA*



<10"



LATER RUSSIAN
SAGE
BLUE FLAX HAS
BETTER MANNERS

LEWIS' BLUE FLAX *LINUM LEWISII*



10-15"

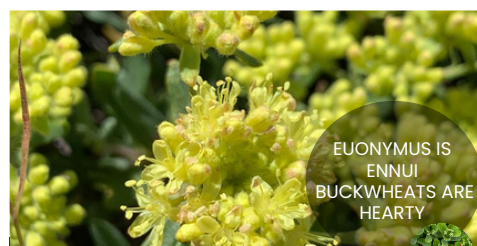


BUH BYE
BOXWOOD
HELLO
RABBITBRUSH

GRAY RABBITBRUSH *ERICAMERIA NAUSEOSA*



<10"



EUONYMUS IS
ENNUI
BUCKWHEATS ARE
HEARTY

SULFUR BUCKWHEAT *ERIOGONUM UMBELLATUM*



10-15"



SEE YA, SALVIA
PENSTEMON'S
GOT STYLE

SHRUBBY PENSTEMON *PENSTEMON FRUCTUS*



10-15"



BASIC BULBS ARE
BORING
NODDING ONION IS
TRENDING

NODDING ONION *ALLIUM CERENUM*



10-15"



DIANTHUS IS A
DOWNER
DESERT YELLOW
DAISY SHINES!

DESERT YELLOW DAISY *ERIGERON LINEARIS*



10-15"



PRIVETS ARE
PASSE -
WINTERFAT
WOWS!

WINTERFAT *KRASCHENINNIKOVIA LANATA*



<10"

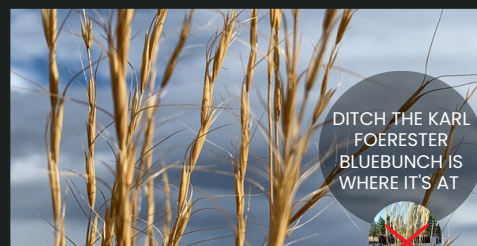


DITCH THE
DAYLILY-
GLOBEMALLOW
GLOWS

MUNRO'S GLOBEMALLOW *SPHAERLCEA MUNROANA*



<10"



DITCH THE KARL
FOERESTER
BLUEBUNCH IS
WHERE IT'S AT

BLUEBUNCH WHEATGRASS *PSEUDOROEGNERIA SPICATA*



<10"



FOUR WING SALTBRUSH
ATRIPLEX CANENSCES



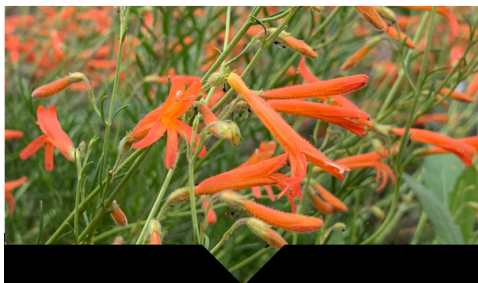
APACHE PLUME
FALLUGIA PARADOXA



GREEN RABBITBRUSH
CHRYSOETHAMNUS VISCIDIFLORUS



FALL BLOOMS WILL MAKE YOU SWOON!



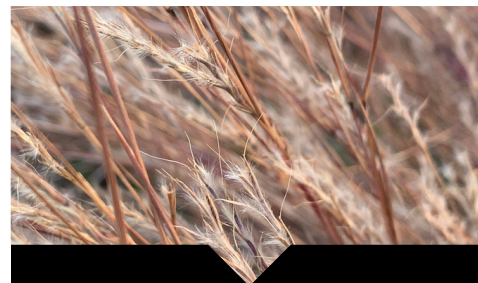
PINELEAF PENSTEMON
PENSTEMON PINIFOLIUS



SHOWY PENSTEMON
PENSTEMON SPECIOSA



ROCK BUCWHEAT
ERIOGONUM SPHAERALCEA



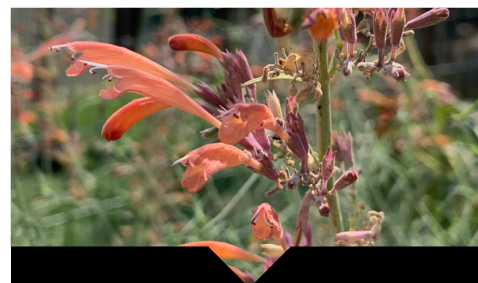
LITTLE BLUESTEM
SCHIZACHYRIUM SCOPARIUM



BASIN WILDRYE
LEYMUS CINEREUS



SNOW BUCWHEAT
ERIOGONUM NIVEUM



SUNSET HYSSOP
AGASTACHE RUPENSTRIS



CREeping OREGON GRAPE
MAHONIA REPENS



THREADLEAF DAISY
ERIGERON FILIFOLIUS



DITCH THE KARL
FOERSTER,
PRAIRIE
JUNEGRASS
PACKS A PUNCH



PRAIRIE JUNEGRASS
KOELERIA MACRANTHA





10-15"

IDAHO FESCUE
FESTUCA IDAHOENSIS





10-15"

SERVICEBERRY
AMELANCHIER ALNIFOLIA





15-20"

YARROW
ACHILLEA MILLEFOLIUM





<10"

PALE EVENING PRIMROSE
OENOTHERA PALLIDA





<10"




RICHARDSON'S PENSTEMON
PENSTEMON RICHARDSONII






10-15"

GOLDEN CURRANT
RIBES AUREUM

10-20"

ADIOS, ABELIA
FERNBUSH
BOASTS
BEAUTIFUL
BLOOMS



FERNBUSH
CHAMAEBATIARIA MILLEFOLIUM





10-15"

PURPLE SAGE
SALVIA DORRII





<10"

OREGON SUNSHINE
ERIOPHYLLUM LANATA





10-15"

WYETH BUCKWHEAT
ERIOGONUM HERELOIDES





10-15"

NATIVE BLANKET FLOWER
GAILLARDIA ARTISTATA





15-20"

NATIVE PLANT VENDORS

+ FAQ

BFI Native Seeds ^
Warden, WA 98857
www.bfinativeseeds.com
(509) 765-6348

Derby Canyon Natives
Peshastin, WA 98847
www.derbycanyonnatives.com
(509) 548-9404

Desert Jewels Nursery*
Spokane, WA 99206
www.desertjewelsnursery.com
(509) 893-3771

Plants of the Wild
Tekoa, WA 99033
www.plantsofthewild.com
(509) 284-2848

Rainier Seeds Inc. ^
Davenport, WA 99122
www.rainierseeds.com

Tapteal Native Plants LLC*
West Richland, WA
www.taptealnativeplants.com
(509) 578-6446

Tribal Native Nursery
Pendleton, OR 97801
(541) 278-8525

WildLands Nursery Inc ^
Richland, WA 99354
www.wildlands-inc.com
(509) 375-4177

WILL NATIVE PLANTS NEED TO BE IRRIGATED?

YES, ALL PLANTS SHOULD BE IRRIGATED WITH DRIP IRRIGATION INITIALLY AND AS THE SPECIES DICTATES. SPECIES THAT REQUIRE LESS THAN 10" PRECIPITATION ANNUALLY CAN BE TAKEN OFF DRIP IRRIGATION ONCE THEY'RE ESTABLISHED.

WHAT'S THE LEAD TIME BETWEEN ORDERING PLANTS OR SEEDS AND PLANTING?

MOST NATIVE PLANTS ARE GROWN FROM SEEDS THAT ARE PLANTED IN FALL.

FOR LARGER PROJECTS OR CONTRACT GROWING 2-3 YEARS LEAD TIME IS RECOMMENDED.

CONNECT WITH YOUR LOCAL NATIVE PLANT NURSERY TO LEARN MORE.

HOW LONG DOES IT TAKE A PLANTING TO LOOK ESTABLISHED?

GENERALLY, IT TAKES 3 OR MORE YEARS FOR A NATIVE PLANTING TO FILL IN. FIRST THEY SLEEP, THEN THEY CREEP, THEN THEY LEAP!

WHAT SIZE POTS DO NATIVE PLANTS TYPICALLY COME IN?

BECAUSE OF THEIR LONG, DEEP ROOT SYSTEMS, MANY NATIVE SPECIES COME IN DEEPER POTS THAN CONVENTIONAL NURSERY PLANTS.

^ denotes emphasis in restoration and/or large scale projects

*denotes design services are offered

LOCAL RESOURCES

FREE PLANT LISTS + ADVICE

The Heritage Garden Program provides free site evaluations, customized plant lists and planting guides for residents of participating counties in WA. Designs are meant as an inspirational guide and are not provided by a Landscape Architect. Check out their website to learn more.



www.hgcd.info

LAND MANAGEMENT ADVICE

Your local Conservation District is a non-regulatory, grant-funded organization dedicated to the wise stewardship of soil, water, air, fish and wildlife. Connect with your county conservation district to see what resources are available to you.



<https://www.scc.wa.gov/>

NOXIOUS WEED CONTROL

The Noxious Weed Control Board provides education on noxious weed control in Benton County. Connect with them for customized weed identification and control methods for your site.



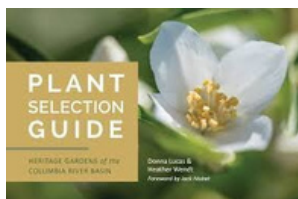
<https://www.nwcb.wa.gov/>

GET YOUR LANDSCAPE CERTIFIED

Share with the community what you're doing. The Heritage Garden Program, The Xerces Society, National Wildlife Federation and others offer certification programs with signage you can add to your native planting.



FURTHER READING



PLANT SELECTION GUIDE: HERITAGE GARDENS OF THE COLUMBIA RIVER BASIN
BY HEATHER WENDT + DONNA LUCAS

WANT MORE INFORMATION ABOUT THE PLANTS IN THIS GUIDE? CHECK OUT THE HERITAGE GARDEN PROGRAM WEBSITE OR CONNECT WITH YOUR LOCAL NATIVE PLANT NUSURY.