



A plot in the Arrowleaf area in 2002, before restoration.



The same plot in 2005, with native grasses.

New Plantings Are Vulnerable to Weeds

Weeds are equipped to out-compete native seeds at several different growth stages. They get a head start on natives by germinating more quickly; their rapid growth overwhelms newly established natives.

Careful site preparation limits weed competition. Once you have weeds, review control strategies on pp. 18-19. Allow tender new seedlings to develop for four to six weeks before implementing weed control. In small areas, hand pulling and scuffle hoeing around seedlings works well. Plan on two to three rounds of weeding the first season; this should decrease in future years, as bunchgrasses get established.

Native seedlings can be slow to take hold. Bunchgrasses may take two or three years to mature and some steppe species lie dormant without germinating the first year. Be patient and stick to your plans — in a few years it's possible to raise vibrant stands of lush grasses and beautiful wildflowers.

CHECKLIST FOR SEEDING SUCCESS

1. Select appropriate seeds for the site.
2. Prepare the seedbed.
3. Provide adequate moisture.
4. Control weeds.



Seedlings of bluebunch wheatgrass, *Agropyron spicatum*.

EARLY SETTLERS OF THE PLANT WORLD

Before non-native invasive plants arrived, groups of native species called *early seral species* colonized disturbances. These plants still thrive today and exhibit characteristics similar to weeds: high seed production, quick seed germination, and rapid early growth. These colonizers are ideal for restoration; include them in your seed mixes.

These are commercially available

Sand dropseed, *Sporobolus cryptandrus*
 Snow buckwheat, *Eriogonum niveum*
 Big sagebrush, *Artemisia tridentata*
 Rabbit-brush, *Chrysothamnus nauseosus*
 Yarrow, *Achillea millefolium*

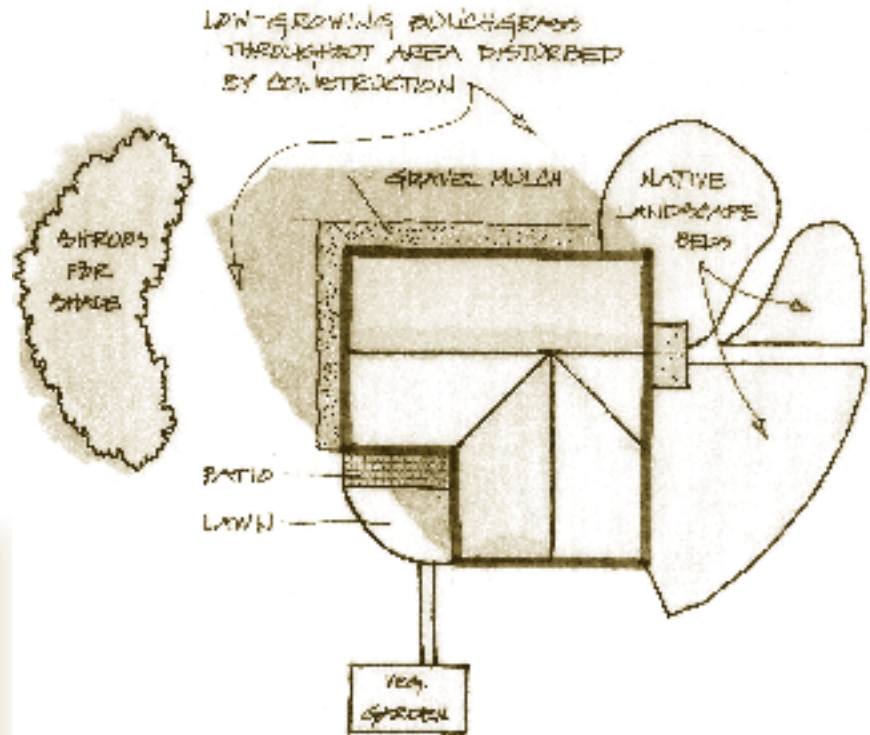
Collect these by hand

Western needlegrass, *Stipa occidentalis*
 Swale desert parsley, *Lomatium ambiguum*
 Narrow-leaved phacelia, *Phacelia linearis*
 Silverleaf phacelia, *Phacelia hastata*
 Woodland star, *Lithophragma parviflora*
 Blue-eyed Mary, *Collinsia parviflora*



Big sagebrush,
Artemisia tridentata

Plan Plant Choices and Positions with a Site Map



LANDSCAPE BED DETAIL



B = BLUEBUNCH WHEATGRASS
 BHP = BLUE MOUNTAIN PENSTEMON
 J = JUNEGRASS
 R = RABBIT-BUSH
 EP = RICHARDSON'S PENSTEMON
 W = PARSNIP-FLOWERED BUCKWHEAT
 D = GRAVEL MULCH THROUGHOUT

Buying Living Plants

Putting in living plants on your site saves you the time and labor of germinating seed. Nursery-grown plants are more resilient to the stress of transplanting than wild plants are.

Native plants are available in containers and in bare-root form. *Plugs*, small containers of rooted plants, are economical, easy to plant, and well suited to large installations. They are ideal for bunchgrasses and wildflowers. Many restorationists choose shrubs in one- and two-gallon containers; these larger plants provide a jump-start on growth and are easily established.

Bare-root plants are cost-effective but typically have a narrow planting-time window in the spring. Follow care and planting instructions provided with the plants.

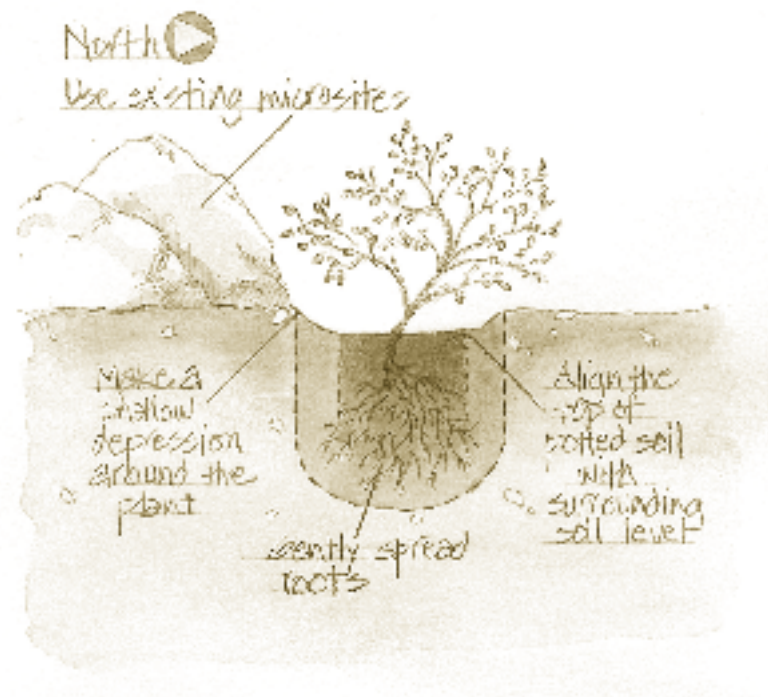


Wet the plug thoroughly and rap the container's top edge sharply on a hard surface. The plant should slide out.

A Time and Place to Plant

Put plants in the ground in fall so they can acclimate over winter and can take advantage of spring moisture. Mid- to late October is usually the best time. Early spring is the next-best time to plant, though container stock can be planted throughout the growing season if irrigation water is adequate.

Look for *microsites*, small depressions that catch water, or northern faces of rocks or logs that create shade. In planting areas you've newly contoured, make a little depression around each new plant to catch water. If soil is dry, water new plants thoroughly.



Mimic naturally varying spatial patterns as you place your plants; look at openings between plants in wild shrub-steppe. Space bunchgrasses and wildflowers in variations between one and three feet apart. Space medium-sized shrubs like rabbit-brush and sagebrush between five and ten feet apart. Group plants with similar water needs together. If you have a supplemental irrigation system, make sure your plant layout fits within that system.

Mulch, the Humble Hero

Mulch is a layer of material over soil that suppresses weeds, reduces soil moisture loss, and insulates soil from extreme temperature swings. Mulch can be organic material like grass clippings, dead leaves, and commercially prepared cocoa bean hulls, or it can be inorganic material like gravel.

CONSIDERATIONS OF WILD PLANT COLLECTION

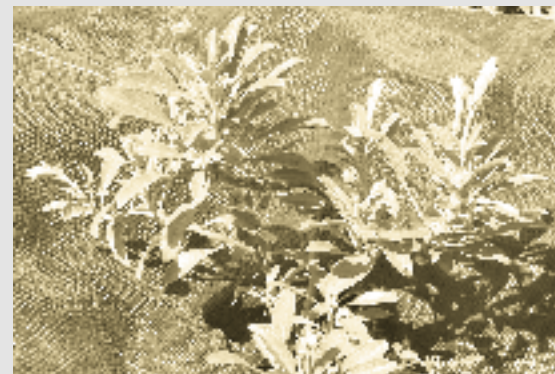
Many wild plants, especially older established ones, are deeply rooted and don't survive transplanting. Digging in shrub-steppe creates newly disturbed soil susceptible to weed colonization. You can safely collect plants without harming habitat only in areas that you know will be damaged by development. If you do collect plants from wild lands, removing only a few plants from a large population reduces the chance of depleting the area.

Many native species are available commercially and are more likely to survive than plants collected in the wild; using seed or buying living plants are the best ways to get plants.

Gravel mulch keeps plant stems dry, discouraging fungal infestation. A margin of gravel mulch around homes reduces fuel for wildfires. Elbow Coulee gravel, an earth-toned gravel, is available from local excavators. Methow Recycles offers economical glass gravel made from crushed bottles.

LANDSCAPING MADE EASY

- Arrange plants in small groups of odd numbers; vary spacing and plant size.
- Choose contrasting shapes and colors.
- Emphasize accent plants with mulch or rocks.
- Choose plants with different blooming times for color throughout the growing season. See the plant tables, pp. 21-25.
- To reduce weeding to a minimum, lay down barriers made of commercial weed fabric or cardboard. Cut out a hole for each plant, and anchor the barrier to the ground. Hide the barrier under a layer of mulch.



Fabric weed barriers allow air and water to pass through.

Tailor Restoration Techniques to Your Site

Each acre of shrub-steppe is unique and each of us has goals specific to our site. Listed below are common situations in the Methow Valley, and restoration techniques to address them.

Newly Disturbed Shrub-Steppe

Be vigilant about confining new disturbance to the smallest footprint possible, make sure heavy equipment brings in no weed seeds, and restrict paths of vehicles and equipment to minimize soil compaction. Remember to save topsoil to preserve your native seed bank. Before they

go to seed, remove weeds that sprout during construction. Mechanically loosen soil that has been compressed and smooth it before planting. A light once-over by heavy equipment leaves tread marks that make good microsites for beneficial seed germination.

Reseed and replant with appropriate native species. If wild lands surrounding your site don't have many weeds, the native seed bank may help your restoration efforts.

RESTORATION TRADEOFFS

We all want clear guidelines, but each restoration situation is unique. Before you take action, consider the reactions you'll generate and seek a good balance. Consult experts, make a few mistakes, and learn from your experiences.

Plenty of water helps native plants take hold and grow, **but** it also germinates weed seeds and encourages weed growth.

Hoeing, hand pulling, or cultivating with a tractor can control some weeds, **but** any soil disturbance invites weed seeds to jump-start.

Herbicide may be the only practical answer for some weed infestations, **but** herbicide can kill healthy native plants and may present other risks.

Non-natives like intermediate wheatgrass effectively compete with weeds, **but** they don't contribute to native diversity.

SHRUB-STEPPE ALL-STAR

Scarlet gilia

Gilia aggregata

With firecracker-red trumpet-shaped flowers, this common biennial self-seeds readily along roadsides. When deer browse gilia, it often responds by flowering from side shoots. Hummingbirds frequent this wonderful nectar source.

See other
Shrub-Steppe All-Stars
on pp. 20, 27, and 36.



Old Agricultural Sites

Formerly productive farmlands may now be acres of weeds, but this land can respond well to restoration. Prepare the site one or two years prior to planting by plowing up undesirable perennials and leaving them to dry out. You may need to do this several times during the growing season. Consider herbicide when dealing with weeds that regenerate from fragments of disturbed roots. Plant cereal grains as cover crops to compete with weeds.

Hardy pasture grasses like orchardgrass and smooth brome dominate some old farm fields, excluding more aggressive species. In some cases, these fields might be best left alone.

Existing Lawns

Traditional grass lawns require a great deal of water. If you've purchased a home that includes more lawn than you need, or if you'd like to reduce your lawn to a smaller area reserved for play and relaxation, remove the grass sod in spring with a shovel or sod cutter and put it in a pile to decompose into rich compost for your garden. Till the top three inches of soil. Water it periodically and till in any weeds that sprout. By fall, the plot should be ready for planting or seeding.



Limit lawn size to reduce water use.

Existing Shrub-Steppe

Much of Methow Valley shrub-steppe is in fair condition, with light weed infestations and stable communities of native plants. Rather than implementing major restoration, practice active stewardship: assess weed populations, develop a weed control plan, limit soil disturbance, monitor for problems, and let natural processes unfold. Collect and broadcast native seed to increase diversity.

Landscaping for Homes

Native plants are the perfect choice for a natural landscape that blends into the surrounding beauty of the Methow Valley. Plan permanent irrigation systems and expect to spend more time on plant maintenance. *Xeriscape*, or design your landscaping for minimal water use, with drought-tolerant plants.

If you choose to put in non-native plants, make sure they're non-invasive, drought-tolerant, and hardy to -20° F. Mint family herbs like lavender, hyssop, and culinary sage need little water and make excellent additions to landscaping beds.

Many shrub-steppe species do not thrive in rich soils with high organic content but can benefit from amendments to landscaping beds. Make sure soil is well drained, and limit additions of compost. Keep organic matter away from the base of species like penstemon and buckwheat to prevent rot.

Incorporating phosphorous and trace minerals like those found in rock phosphate and Planters II stimulates root growth, flowering, and fruiting. A couple of shovelfuls of native soil reintroduce beneficial mycorrhizal organisms.