

Where the Prairies Meet the Mountains...

an introduction to using Montana native plants

Celebrate Montana's natural heritage while creating diverse, attractive and environmentally sensitive landscape and restoration plantings. Montana has often been described as *where the prairies meet the mountains*. The diverse regions of Montana provide many opportunities for using native plants in a variety of ways. We hope the following information will help you start on a Montana native plant adventure.

What is a native plant?

Native plants are plant species that have evolved in place over geologic time or occur naturally in a specific region or area. Where particular native plants are found across the landscape is largely a response to climate and the result of adaptation to specific site conditions. Montana native plants are those plants that were here before Euro/American settlement and are indigenous to Montana. Large-scale changes to the flora of North America occurred as a result of European settlement and the introduction of exotic plants. We recommend planting species native to Montana and when appropriate, plants native to your particular area. Remember that plant species that are native to North America may be exotic in Montana and plants native to other areas of Montana may be exotic in your area.

What is an exotic plant?

An exotic species is a plant that was introduced into a particular area by humans, either intentionally or accidentally. They are also called non-natives or aliens. While some exotics are harmless and may be used to help meet your landscaping objectives, others pose serious threats to local biological diversity and can become serious pests. The "What should I avoid" section that follows has additional information. Escaped exotics can change the composition of native plant communities, successfully compete for resources, displace native species, reduce plant diversity, contribute to soil erosion and carry exotic insects and disease. Exotic species can also diminish the availability of food plants for wildlife, and alter the behavior of native pollinators, plant-eating insects and fruit-eating birds. Invasion by exotics is one factor that contributes to the threat of native plant extinctions. Don't forget that birds, dogs, other animals, people, vehicles and water can transport and spread plant seeds. An exotic plant from your yard may become a problem in a natural area near you, so during the planning stage consider how invasive a particular exotic species is, and determine if your landscaping objectives can be met by using a Montana native plant instead. Also become familiar with plants that are categorized as noxious weeds by the state of Montana.

What is a cultivar?

Nurseries may advertise certain plant species as "native"; however, they may be cultivars. A cultivar is a plant species that has been selected horticulturally for characteristics such as size, flower color, or seed production. These cultivated varieties, often propagated

vegetatively, may be of unknown lineage. Many of these plants, developed from native species, do not have the same genetic composition as natives. Sometimes cultivars are more aggressive and can crowd out other native species. In restoration and native landscaping, cultivars should be avoided if possible, especially when they might contaminate the gene pool of naturally occurring native plants of the same species. This is of special importance in the urban-interface zone where natural vegetation and man-made landscapes come into close contact.

Why should I plant native plants?

- **NATIVE PLANTS ARE ADAPTED**

Montana offers the home landscaper, gardener and reclamation specialist a wide variety of native plants, including colorful wildflowers, unique grasses, interesting shrubs and trees, both evergreen and deciduous. These natives are genetically adapted to our unique landscape, *where the prairies meet the mountains*, with its variable and unpredictable climate, soil requirements, temperature extremes of hot and cold, and elevations. Native plants, properly sited, are adapted to these cold, dry, often erratic conditions and display less evidence of stress. They often require less water and won't require fertilization once they are established in the proper site. Remember that some Montana natives are adapted to cool, shady or moist areas along stream banks, some to low plains, valleys and dry prairies, while others are suited to higher elevation sites. There are Montana native plants suitable for your site-specific landscaping needs!

- **NATIVE PLANTS ARE LESS INVASIVE**

Montana native plants that evolved here belong here. They have natural partners that keep them from becoming invasive. These natural predators and diseases are compromised when non-native plants are introduced. Native plants are part of a natural community of plants and other organisms that developed in a particular landscape with particular conditions, and have reached a balance that includes changes. Native plants tend to stay within naturally evolved limits on their chosen landscape. Help prevent future weed problems – plant natives!

- **NATIVE PLANTS CELEBRATE OUR NATURAL HERITAGE**

Montana supports a unique floral landscape that is worth promoting and protecting. Montana natives inspire a sense of place and connect us to this land of prairies and mountains. Native landscapes reflect where we are and celebrate our unique climatic and ecological conditions. We have the opportunity to express our diversity by maintaining a variety of distinctive native plantings. Such plantings foster pride in our regional communities and heritage, and counter the trend toward the homogenization of landscapes. Native plant gardens, big and small, provide an educational opportunity and are a great way to introduce students of all ages to the complexities of the natural environment. Enjoyment of native species can broaden public awareness of natural environments and the species they support.

- **NATIVE PLANTS PROTECT BIODIVERSITY AND RESTORE REGIONAL LANDSCAPES**

Throughout much of the United States, some species of native plants are scarce and are in danger of becoming extinct. Planting native species, especially those that came from seeds from the local area, may enhance gene flow between native populations separated by development and habitat fragmentation. Even small native plant gardens can help restore the integrity of regional landscapes. You can help perpetuate the native vegetation that is necessary for wildlife and natural ecosystem function by being mindful of what you plant on your property.

- **NATIVE PLANTS PROVIDE FOR WILDLIFE NEEDS**

Planting native trees can result in increased numbers of native birds. Many birds and other fauna are adapted to using native trees and prefer them for food and resting places. Many native grasses provide food and shelter for birds and small mammals, and native shrubs provide browse for deer, moose and other large mammals, as well as food for birds and small critters. Conversely, some native species are less attractive to browsing wildlife and can be selected to discourage urban browsers. Native plants and animals evolved together and depend on each other in a mutually beneficial web. Even beneficial native insects need native plants to carry out their important roles in the ecosystem.

- **NATIVE PLANTS ARE FUN!**

Most of all, native plants are fun, interesting, colorful and attractive. They can provide hours of enjoyment ranging from hands-on puttering to admiring your mature, native plant landscape from your favorite lawn chair. You can help reestablish native plant communities in our part of Montana by choosing to landscape with native plants. Regardless of the scale of the project, you can help conserve water and other natural resources while restoring and celebrating the unique character of our *where the prairies meet the mountains* landscape.

How do I get started?

Begin to tune into native plants and their habitats. The Montana Native Plant Society sponsors hikes and field trips that provide opportunities to learn about native plants and plant communities. While hiking or driving the backroads around your area, take note of where certain native plants grow, and what plants are often found growing together. Because Montana encompasses both prairies and mountains, arid lowlands and wetlands, it is important to conduct a site inventory to determine the conditions on your property. Use the *Recommended Species for Native Plant Landscaping in the Helena Area* handout provided with this packet and the *Creating Native Landscapes* brochure to match up your soil, light and water conditions with appropriate species of grasses, wildflowers, groundcovers, shrubs, trees, vines or cactus. These references will also help you identify plants that are perennial, biennial, annual, or self-seeders. Then consider using native plants that occur together in natural habitats. Find out what the average annual minimal temperature and daily average maximum temperatures are for your part of the state. We are considered to be in Zone 4 and you may see references to that when you do plant research. If you are building a new home, work with your contractor to insure that displaced topsoil is stored so you can use it to develop landscaped areas, and leave as

many natives as possible undisturbed. See *Resources for Native Plant Landscaping* on this website for more information on how to work within nature's guidelines in your area of the state. Prepare your area for planting using the recommended strategies in the *Creating Native Landscapes* brochure. Weed control and site preparation may need to be done prior to planting and while native plants are becoming established on the site. Remember, it takes time for seeds or transplants to become firmly rooted. You should expect native plants to take longer to become established and extra care, weeding, shelter from sun or wind, and water may be required.

Plants or seeds?

If you are a beginner, it may be easiest to start by putting in a few potted native plants rather than planting from seed. Check the *Source Guide for Native Plants of Montana* to see what is available locally. Take your *Source Guide* with you to the nursery. If a plant is not listed in the *Source Guide*, chances are it is not a Montana native plant. Use *Recommended Species for Native Plant Landscaping* guides on this website to help you with your selections. But some plants, like Lewis's blue flax (*Linum lewisii*), yarrow (*Achillea millefolium*) and blanket flower (*Gaillardia aristata*) are very easy to grow from seed. Try them first, and then expand as your confidence grows. If you are planting native plants from seed, patience is the key. Native plants, like any other plant, require care and attention for them to look their best. Growing native plants takes time, but once they are established you will be rewarded with natural beauty, hardiness and minimal maintenance.

Don't worry if you don't know the scientific names for plants. The *Source Guide* has an index to common plant names that you can use to cross-reference. *Recommended Species for Native Plant Landscaping* guides have both common and scientific names. However, when you go to the nursery or look at a seed packet, check the scientific name to be sure you are getting what you want. Often the same common name will be used for very different plants and the scientific name will help you get the right plant. Use one of the picture books listed in *Resources for Native Plant Landscaping* if you need to see what a plant looks like. If you don't see what you are looking for at the nursery, ask for it! More natives are being grown all the time and as the demand increases, so will the supply.

Where did my native seed come from?

Definitions of "native" vary from one grower and nursery to the next, and may include cultivated varieties (cultivars) of native species, as well as native plants from another part of the state. For restoration and native habitat projects, it is usually best to use plants originating from the nearest available natural sites. Use the *Source Guide for Native Plants of Montana* to help you locate seed and plant sources. In most instances it is impractical for local nurseries to rely entirely on local sources, and for the home landscaper it is not necessary. Simply ask where your nursery's plants come from and try to get plants as locally grown as possible. When they are available, it is always better to buy native Montana seeds or transplants from a local producer.

Can I collect plants and seed in the wild?

It is extremely important that you become familiar with the legal criteria and environmental ethics involved in collecting plants and seeds from the wild. Seed and plant collecting is prohibited in many areas of Montana. In general, we discourage collections from the wild unless permission is granted on private land, or plants and seeds are rescued from areas that are scheduled to be disturbed by new construction, road building, etc. Read the *Plant Collecting Guidelines* and the *Plant Collection Guidelines for Teachers*, available on this website, for more information.

When do I seed or plant?

Fall is a good time to plant wildflower (forb) seeds. Going through a Montana winter will help break down the germination inhibitors associated with many native plant seeds. This process is termed stratification. Species that require cool soil temperatures for germination will be favored using this method. Fall planting is from October to November (or later if the ground is not frozen) in this area, and varies depending on the temperature and moisture conditions. Native grass seed sown earlier than late October may germinate if weather is unseasonably warm and the seedlings may winter kill. Fall plantings generally do not need to be watered and work best if you receive snow cover in the winter. You may not have great success with fall planting if the area to be planted is dry and exposed to wind. If fall seeding is not possible, seeds can also be planted as soon as the ground is frost-free, generally from April to mid-June. If forb seeds are sown without being prepared with moist stratification (a period of cold, moist treatment), germination of some species will not begin until the following spring, after the seed has gone through a winter treatment. If your seeds don't come up right away, don't give up on them until they have gone through a winter. Spring seedings may require supplemental watering if conditions are dry. Keeping the soil moist for 3 to 6 weeks after planting will ensure good germination. Potted plants should be transplanted in the spring, before it gets hot, and will need to be watered until they are established.

Where do I plant?

For landscaping purposes, it is important to remember that plants growing in our region are specifically adapted to site conditions determined by elevation (which affects temperature and degree of exposure to sun and wind), topography (which affects moisture, light availability, and exposure), and the amount of shading from other plants. Soil moisture and light availability are important limiting factors that determine where a particular plant can grow. Matching plants to site conditions will usually result in the best plant growth. Check *Recommended Species for Native Plant Landscaping* guides to see what conditions are necessary for optimal plant growth. Also look to see if a plant is an annual, a biennial or a perennial and place each in an area that meets your landscaping objectives.

If you don't know what kind of soil you have on your property, testing your soil can be invaluable. Your County Extension Office has a publication available called *Soil, Plant and Water Analytical Laboratories* (EB 150) that provides information on soil tests and the laboratories that perform them.

How can I reduce fire danger to my home?

If your home is located within or adjacent to wildlands or if you are considering building a home in the urban-wildland interface, you will want to consider the possibility of wildland fire. Fires have shaped the western landscape for centuries and much of Montana is part of a fire dependent ecosystem. Fire is a natural process that will happen at some time in our dry, arid climate. As a homeowner, what you do with your home and with the property immediately surrounding your home, can make the difference if a wildland fire occurs near you. Recent research by Jack Cohen, a research scientist at the Fire Sciences Laboratory in Missoula, has demonstrated that home ignitability, rather than wildland fuels, is the principle cause of home losses during urban-wildland interface fires. The key components to help make your home defensible are design elements, elimination of flammable roofing materials such as cedar shingles, and reducing the presence of burnable vegetation (debris, wood piles, shrubs, wood decks) immediately adjacent to your home.

What about seed mixes?

Almost all commercially available wildflower mixes (“meadow in a can”) contain both natives and non-natives, and many include weedy species. Recent research has demonstrated that many mixes are improperly labeled and contain weeds. We do not recommend planting pre-packaged wildflower seed mixes because it is difficult to determine what is really in the mix and the relative percentages of each species. Mixes often contain a high percentage of species that are outside their natural ranges. We suggest buying individual native wildflower seeds or customizing your own mix. Many wildflower species may only be available in single-seed form anyway. If you are buying packaged wildflower seeds, remember that “adapted to Montana” is not the same as “native to Montana” and may indicate the presence of non-native species.

What should I avoid?

Some nurseries and garden centers sell exotic species as “wildflowers”. Some of these plants are not native to Montana or even to North America. Some wildflower seeds are not native to Montana but are native to states near us. An example is California poppy. Some of these North American plants may be used without danger of becoming invasive problems. But Montana native species are adapted to our landscape and have built-in controls to keep them from becoming too invasive. The dangers of planting exotic species are well documented and include such things as the loss of Montana wetlands to aggressive aliens like purple loosestrife, the conversion of many acres of land in western Montana to spotted knapweed, and the spread of Dalmatian toadflax on Mount Helena.

We recommend that you avoid the following species that may be found in wildflower mixes or as single-species seeds: baby’s breath (*Gypsophila paniculata*), bouncing bet (*Saponaria officinalis*), corn poppy (*Papaver rhoeas*), bachelor buttons (*Centaurea cyanus*), dame’s rocket (*Hesperis matronalis*), foxglove (*Digitalis purpurea*), and Queen Ann’s lace (*Daucus carota*). Some mixes still contain oxeye daisy (*Chrysanthemum leucanthemum*), a plant that is a noxious weed in Montana.

We also advise you to avoid using the following plant species that are very invasive. Instead, try to find a native plant or a non-aggressive exotic to meet your landscaping or reclamation needs: black medic (*Medicago lupulina*), Canada bluegrass (*Poa compressa*), cheatgrass (*Bromus tectorum*), creeping bellflower (*Campanula rapunculoides*), crested wheatgrass (*Agropyron cristatum*), Kentucky bluegrass (*Poa pratensis*), orchard grass (*Dactylis glomerata*), Russian olive (*Elaeagnus angustifolia*), scotch broom (*Cytisus scoparius*), smooth brome (*Bromus inermis*), soft brome (*Bromus mollis*), teasel (*Dipsacus sylvestris*), white sweet clover (*Melilotus alba*), yellow sweet clover (*Melilotus officinalis*), and members of the spurge (*Euphorbia*) family.

For more information on plant species that are, or may become, invasive in Montana, visit the Montana Native Plant Society's website at: www.umt.edu/mnps. In the "Publications" section there is a paper called "Guidelines for Selecting Horticultural Plant Material for Montana".

What about lawns?

The Audubon Society has determined that home lawns blanket 25 million acres of land in the U.S. The average American lawn is 1/3 acre, generates 2 tons of clippings a year and consumes up to 170,000 gallons of water in a single summer. A typically treated lawn receives 3-20 pounds of fertilizers and 5-10 pounds of pesticides a year. The average homeowner spends 40 hours mowing the lawn each year and \$8.5 billion is spent annually on retail sales of residential lawn care products and equipment.

Shrubs, trees, perennial flowers and groundcovers usually consume less water than grass (check plant requirements), add interest and color to your landscape, and provide a welcoming habitat for birds and butterflies. To reduce the size of an already established lawn, try planting groundcovers, low shrubs or perennials beneath mature trees, or expanding the size of an existing plant bed. Eliminate grass from areas where it is hard to grow (dense shade, wet spots, exposed areas, steep slopes) and plant natives there instead.

For areas that you choose as lawns, consider planting buffalo grass. Buffalo grass (*Buchloe dactyloides*) is a drought tolerant Montana native species. Although it is not native to western Montana, it is present in eastern Montana. Buffalo grass takes two to three years to establish. Once established, buffalo grass requires very little water and no mowing. It is a low-growing, perennial grass that spreads by aboveground stems (stolons) like strawberries. Planting can be done in the spring or summer when soil temperatures are warm. Fall planting should be avoided. New plantings need to be kept free of weeds to reduce competition. Buffalo grass goes dormant when cold weather hits and turns a nice buff color. It greens up again in the late spring or early summer when soil temperatures rise. Another great option for a native lawn is blue grama (*Bouteloua gracilis*). Blue grama is native to much of Montana, is drought tolerant, and very attractive. Wait until the soils warms up in late spring or early summer before planting blue grama seed. The grass forms beautiful mustache-like seed heads and is a bit taller than buffalo grass. Blue grama and buffalo grass planted together make a nice, low maintenance lawn.

Big projects?

If you have lots of property to rehabilitate you may wish to contact the following county, state and federal agencies for information. These agencies may be willing to send someone to your property to advise you on the logistics of large-scale restoration. However, they may not always be knowledgeable about native plants or the benefits of using native plants for restoration. Remember to refer to the *Source Guide* for seed and plant sources in your area. The nurseries listed may be able to advise you about large-scale projects, and local environmental consulting firms and landscape professionals may also be of assistance.

Your County Extension Office

Your Conservation District

Your County Weed District

Natural Resources Conservation Service

<http://www.nrcs.usda.gov/>

Helena Service Center

790 Colleen St.

Helena, MT 59601-9713

Phone: 406-449-5278

Fax: 406-449-5039

Conclusion:

Consider your landscape and garden a work in progress that can change and evolve as you learn more and become more adventurous. It all begins with the first seeds you sow. Who knows, it may be the beginning of a love affair with Montana's native plants!

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