



# COLORADO NATIVE PLANT SOCIETY

## Defining *Native Plant* for Purposes of Restoration, Revegetation & Landscaping

The Colorado Native Plant Society (CONPS) adopted the following definitions of **native plant** and **local native plant** to help restoration ecologists, biologists, landscapers, land managers and landowners understand what they are planting in Colorado and the potential impacts. The definitions are related to where the plant materials will be used. If the plant materials are to be used in urban areas, we recommend using native plants or local native plant materials. If the plants will be used for restoration/revegetation in areas with few introduced plant species, such as the foothills, wilderness, national parks and forests, we highly recommend using local native plant materials if available.

**Native plant** - a plant species "that occurs naturally in a particular region, state, ecosystem, and habitat without direct or indirect human actions" (Federal Native Plant Conservation Committee, 1994).

We recommend using this definition of native plant for landscaping in urban areas. For example, Saskatoon serviceberry (*Amelanchier alnifolia*) occurs naturally in the wild along the Front Range, therefore, it would be a "native plant" for landscaping purposes within Denver. Plant species that are "native" to other states or countries and were brought to Colorado through nurseries or other means, such as Russian olive, smooth brome and saltcedar, would not be considered **native plants** by CONPS. To clarify whether or not a plant species naturally occurs in Colorado, refer to *Catalog of Colorado Flora* by William A. Weber and Ronald C. Wittmann. This definition of **native plant** would include native plants that have been bred for improvements and cultivars. Cultivars are often not adapted to local environmental conditions. In many cases, a **native plant** or cultivar brought in from out of state is not adapted to Colorado. This may be exhibited by flowering too early, failure to set seed, poor resistance to local diseases/pests and failure to thrive due to climatic differences.

**Local native plant** - a population or ecotype of native plant species that was grown from genetically local plant materials.

In Colorado there may be many ecotypes of the same native plant species. For instance, Indian ricegrass (*Stipa hymenoides*) may have ecotypes for the Gunnison Basin, Grand Junction area, Durango and the Front Range. Within its populations or ecotypes, native plants maintain genetic material and adaptations to local climate changes, elevation, disturbance and other conditions that characterize the area in which it evolved. The Gunnison Basin ecotype plant material would be adapted to cold, dry desert conditions, long hard winters and early fall frosts. The Grand Junction ecotype would be adapted to dry, hot summers and drought conditions. To maintain these ecotypes, one would use genetically **local native plant** materials for restoration/revegetation rather than native plant cultivars or non-local native plant materials (see information below on cultivars).

CONPS believes that some plants have more ecological value as plants than others do. In other words, a "rose is not always a native, no matter how sweet its smell". A few species of the genus saltcedar (*Tamarix*) were introduced into the United States through nurseries in the 1820's and 1830's. They escaped cultivation and quickly depleted wildlife habitat and biodiversity by forming thick monocultures across thousands of miles of riparian areas throughout the West. Some populations of saltcedar now growing in the Southwest are genetically distinct, having apparently arisen through hybridization of two or more species. These populations may have better tolerance to the climate and conditions of the Southwest than the original species from which they were derived.

Native plant species can be viewed as an array of ecotypes or populations whose individual genetic material is defined by the forces of natural selection originating under the particular local environmental conditions of climate, agents of disturbance and other factors that characterize the area in which they evolved (Brown, 1999). Botanists generally agree that to get the best restoration, revegetation or landscaping success with native plants, one should choose plants that were raised in similar conditions (i.e. elevation, frost periods, temperatures) to the restoration site. For instance, if a wild buckwheat ecotype (*Eriogonum racemosum*) from seedstock in Oregon is planted in the Gunnison Basin at 8,000 ft. elevation, it will often try to flower in March and will probably not survive late spring frosts. Geneticists are also concerned with preserving local native plant genetics and adaptations to local climatic conditions, soils, elevations, etc. Researchers have found that trees planted from non-local seed sources had higher rates of disease/insect infestations and were often deformed or died before maturing (Millar, 1996).

Native species are often "improved" by selection and propagation of individuals for certain traits, such as early flowering or taller flower stalks. These selected native plants are called *cultivars*. Cultivars are often not adapted to local environmental conditions and may not thrive. Research has shown that some cultivars will breed with local native plants and decrease a population's fitness or ability to survive in an area. No one really knows what effect these cultivars will have on the wildlife that depend on local native plant species for food. If a local native plant's bloom period, color, or frost hardiness is changed, it could have a drastic effect on the hummingbirds, bees and other wildlife that may utilize them.

If your restoration/revegetation site contains very few introduced plant species, using local native plants is very important because of concerns for preserving local native plant genetics/adaptations. The more local the plant materials are the better. Several National Forests in Colorado (Arapaho-Roosevelt, Medicine Bow-Routt and Grand Mesa, Uncompahgre & Gunnison) have adopted revegetation/restoration guidelines prioritizing the use of local native plant species wherever possible. Saskatoon serviceberry grown from seed or transplants collected in the Gunnison Basin would be considered a local native plant in the Gunnison Basin, but cultivars or plants from Washington or Oregon would not be used as a local native plant on Forest Service lands in the Gunnison Basin. If local native plant materials are not available, non-persistent annuals such as barley or oats should be used to hold the soil until native plants can recolonize a disturbed site. Other options on smaller sites include salvaging native plants from areas that will be disturbed in the future (i.e. new housing developments), collecting native plant seed from the surrounding area and spreading on the site, and allowing the site to recolonize naturally if no noxious weeds are nearby.

For more information:

*Catalog of Colorado Flora* website

<http://www.colorado.edu/CUMUSEUM/research/botany/Catalog/Catalog.htm>

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## References

Brown, Ray W. and Michael C. Amacher, 1999. Revegetation with Native Species, USDA Forest Service Proceedings, 1997 Society for Ecological Restoration Annual Meeting. Rocky Mtn. Research Station, RMRS-P-8, pp. 1-16.

Millar, Constance and William J. Libby, 1996. Disneyland or native ecosystem: genetics and the restorationist. Restoration & Management Notes, 7:1, Berkeley, California.

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