

## SHRUBS



bitterbrush (antelope brush and buckbrush)

### *Purshia tridentata*

A native shrub with three-lobed leaves, green on upper surface and woolly white underneath. The solitary flowers are yellow with 5 petals.

**Ecology and habitat:** Bitterbrush is found in associations with bluebunch wheatgrass, Idaho fescue, and needle-and-thread. In big sagebrush/bluebunch wheatgrass zones, bitterbrush often replaces sagebrush on north aspects. In ponderosa pine zones, bitterbrush/Idaho fescue is found on sandier soils.

**Grazing potential and management:** Bitterbrush is excellent forage for sheep and big game (deer, elk, antelope) and good forage for cattle. It is best used late in the season by livestock on nonwinter ranges. On winter range it is important for both livestock and big game. Improper management may cause hedging of this shrub. If severe hedging continues several years it will reduce vigor and production and ultimately kill the plant.

**Rehabilitation potential:** On most ranges bitterbrush is palatable and will decrease with overgrazing. There are exceptions. It has been used for seeding. Initial and final establishment is good and its growth rate is fair. Prepare a good seedbed and protect the area from browsing for 2 years. It may be too expensive to keep rabbits and deer out.



chokecherry (western chokecherry)

*Prunus virginiana*

A native deciduous shrub with finely toothed oblong leaves and a long cluster of white flowers followed by small red-black cherries.

**Ecology and habitat:** Chokecherry occurs primarily in the foothills in ponderosa pine and Douglas-fir associations. Associated species are usually willow, alder, aspen and dogwood. It generally is found along streams, in open valleys or in sparsely timbered, warm sunny canyons.

**Grazing potential and management:** Chokecherry is poor forage for cattle and fair forage for sheep. For deer and elk it is good forage and the cherries are eaten by birds and small mammals. It is generally browsed in fall after forbs and grasses have dried and on winter range. If eaten in large amounts this plant is poisonous to cattle and sheep. Problems commonly occur with the use of spring growth following a late frost. Chokecherry contains fair amounts of prussic acid (HCN) and if desirable vegetation is scarce it may be eaten in sufficient amounts to cause death.

**Rehabilitation potential:** Western chokecherry generally decreases in higher elevations and increases in lower elevations when the range is being overused. This is due to the differences in palatability of the associated plants.



elderberry (blue elderberry, blueberry elder)

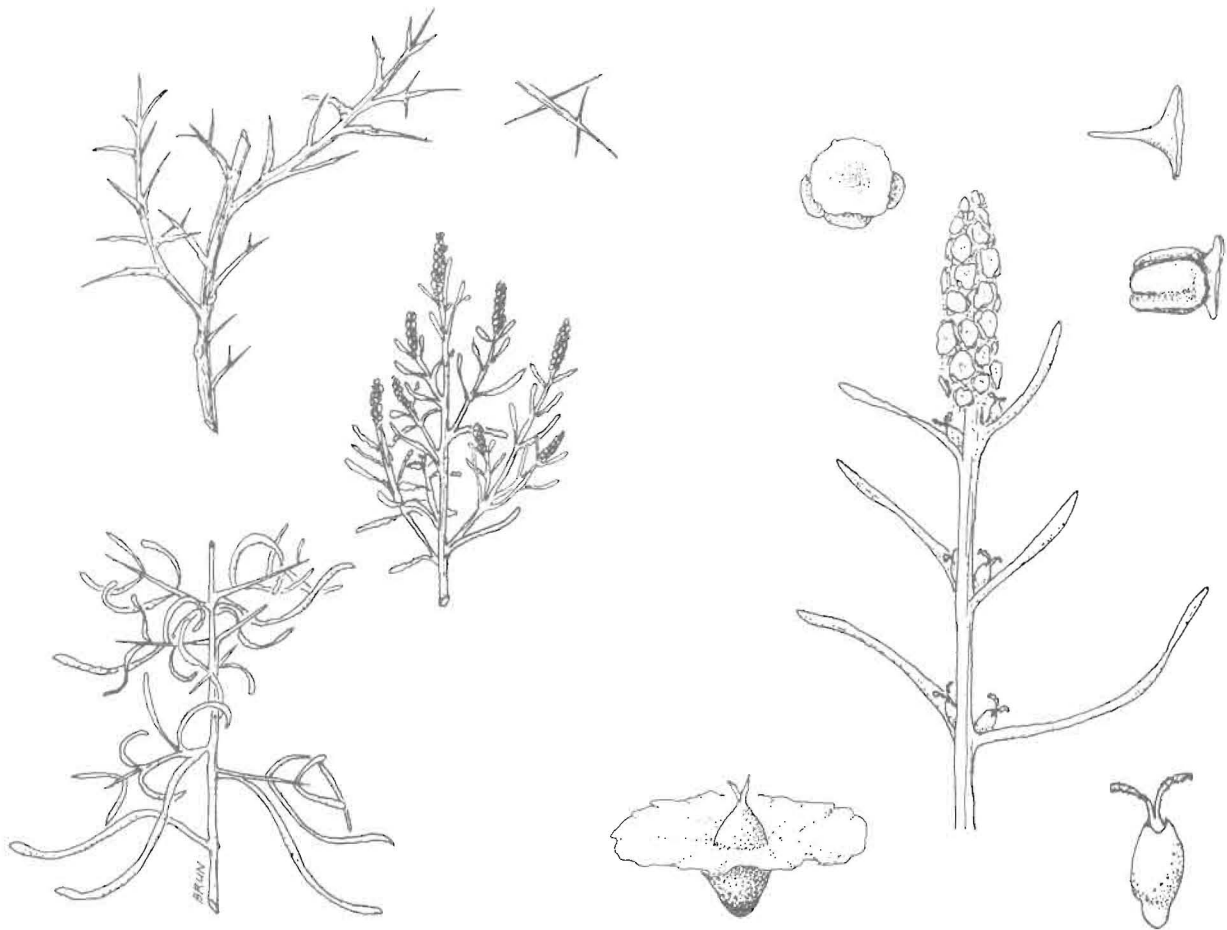
*Sambucus cerulea*

A native deciduous shrub with toothed leaflets on opposite compound leaves and flat-topped clusters of white or creamy flowers that produce bluish-black berries.

**Ecology and habitat:** Flowers from May to July. Elderberry is a component of the understory of ponderosa pine, aspen and open Douglas-fir associations usually along creeks, in depressions or on moist flats. It also occurs on logged or burned areas of forest associations from the Douglas-fir zone up into the subalpine fir zone.

**Grazing potential and management:** This shrub is used very little in spring and summer. In fall after the first frost and during winter it is used heavily by cattle, sheep and big game. It is fair to good forage for cattle and good to excellent forage for sheep and big game. With heavy use it decreases.

**Rehabilitation potential:** A decrease of this shrub indicates heavy use, a downward trend and reduced range condition. It is often used very heavily and is sometimes hedged back to stems an inch in diameter. Manage the range to reduce hedging and keep the plant from growing out of reach.



greasewood (black greasewood, chico)

*Sarcobatus vermiculatus*

A native deciduous shrub with fleshy worm-like leaves that are white-scurfy when young becoming dark green with age. Flowers are in scaly spike-like clusters or as ones or twos on the stem next to upper leaves.

**Ecology and habitat:** Flowers from May to July. Greasewood dominates the overstory in the greasewood/saltgrass association that often surrounds undrained basins with almost pure saltgrass communities. Greasewood tolerates salinity and high pH as well as saltgrass, but is not as tolerant of poor soil aeration. Greasewood grows in areas where annual rainfall is 5 to 25 inches and comes primarily in the fall, winter, and spring.

**Grazing potential and management:** Greasewood is fair forage for sheep in the winter and poor forage for cattle. On depleted ranges where there is no desirable forage it is also browsed in the spring and fall. Big game also use it in the winter and it is important nesting cover for birds. Because it has high salt content, a good source of water is necessary. If it is the only forage available, provide livestock a feed supplement. Its soluble oxalates poison livestock if they consume enough at a given time (usually late summer).

**Rehabilitation potential:** Greasewood increases with overuse of the range and invades other areas. An increase or invasion indicates a downward trend in range condition. Control greasewood by applying a foliar herbicide in the spring. On saline-alkaline clayey soils it is usually not economical to control thick greasewood stands because the site's potential for grass production is so low.



huckleberry (mountain, big or thin-leaf huckleberry, bilberry, blueberry)

*Vaccinium* species (*V. membranaceum*, *V. globulare*)

Native deciduous shrubs with alternate simple leaves and an urn-shaped flower followed by a purple berry in the leaf axil. Fruiting is on second-year wood.

**Ecology and habitat:** Flowers from April to June. Huckleberry is common in the understory of Douglas-fir, grand fir, western red cedar, western hemlock and subalpine fir associations. It is also common on burned and logged areas along with honeysuckle, mountain ash, serviceberry, snowbrush, thimbleberry and rose. On subalpine burns huckleberry and beargrass form an open overstory with subalpine forbs and grasses in the understory.

**Grazing potential and management:** Huckleberry is poor forage for cattle and fair forage for sheep. It is fair to good forage for big game and is sometimes heavily used on elk winter range. On livestock ranges it usually increases, while on big game winter ranges it may decrease.

**Rehabilitation potential:** Base management for this shrub depends on whether it is on big game range or livestock range. The berries, important for recreational use, are also important for birds, bears and small mammals. Large stands are usually the result of wildfires.



kinnikinnick (bearberry, sandberry)

*Arctostaphylos uva-ursi*

A low-growing native evergreen shrub with leathery, oblong alternate leaves and bright red berries.

**Ecology and habitat:** Flowers from April to June. Kinnikinnick is a common understory species in ponderosa pine, Douglas-fir, grand fir and subalpine fir associations. It forms a mat where abundant. Soils are variable but it grows best on coarse, well-drained, sandy loams in partial shade. It is commonly found in droughty pinegrass habitats.

**Grazing potential and management:** Kinnikinnick is poor forage. In winter elk and deer will browse it to a small extent. The berries are used by wildlife species such as bear, grouse and wild turkeys. With overuse of desirable understory forage, kinnikinnick increases.

**Rehabilitation potential:** The dense ground cover formed by kinnikinnick provides good soil protection. The thick mats collect water and aid in the movement of water into the soil, but conifer regeneration is often hindered by these mats. An increase of kinnikinnick on a livestock range indicates a downward trend in range condition.



ninebark (mallow ninebark)

*Physocarpus malvaceus*

A native deciduous shrub with shreddy bark and alternate lobed leaves. White flowers often tinged with rose are in clusters at branch tips. Ninebark leaves often turn red in late summer.

**Ecology and habitat:** Flowers from June to July. Ninebark is an understory dominant in ponderosa pine and Douglas-fir/ninebark associations. It may be dominant in some mountain shrub habitats where trees can't establish due to a shifting soil mantle. It is also common in the drainages of other conifer associations as well as on burned and logged areas.

**Grazing potential and management:** Ninebark is usually poor forage for both sheep and cattle, but it is somewhat better for sheep than cattle. They browse more of it on rangeland that does not have other good forage. Cattle and sheep use it after grasses and forbs have matured. Elk and deer browse some on ninebark in the fall.

**Rehabilitation potential:** Ninebark increases when the range is overused and it indicates a downward trend in range condition. Heavy use of ninebark indicates an overused range. Fire or herbicides temporarily reduce ninebark's impact on more desirable forages.





oceanspray (creambush rockspirea)

*Holodiscus discolor*

A deciduous native shrub with lobed alternate leaves and a pendulous, persistent cluster of tiny white or creamy flowers at the tips of the branches.

**Ecology and habitat:** Flowers from June to August. Oceanspray is a component of ponderosa pine, Douglas-fir, grand fir and subalpine fir associations. It is a common species on logged or burned areas and soils that vary from moist streamside sites to coarse-textured soils on dry slopes.

**Grazing potential and management:** Oceanspray is poor to fair forage depending on the associated species. It may be used in the fall by sheep when other forage has dried up. The forage value for deer and elk is fair to good during winter. This species will increase with overuse of the range.

**Rehabilitation potential:** An increase of oceanspray usually indicates a downward trend and reduced range condition. On big game winter range, shrubs of better forage value than oceanspray should be managed as the key species. Fire or herbicides will suppress or control this shrub.





pachistima (myrtle or Oregon boxwood, myrtlebush, false box or mountainlover)

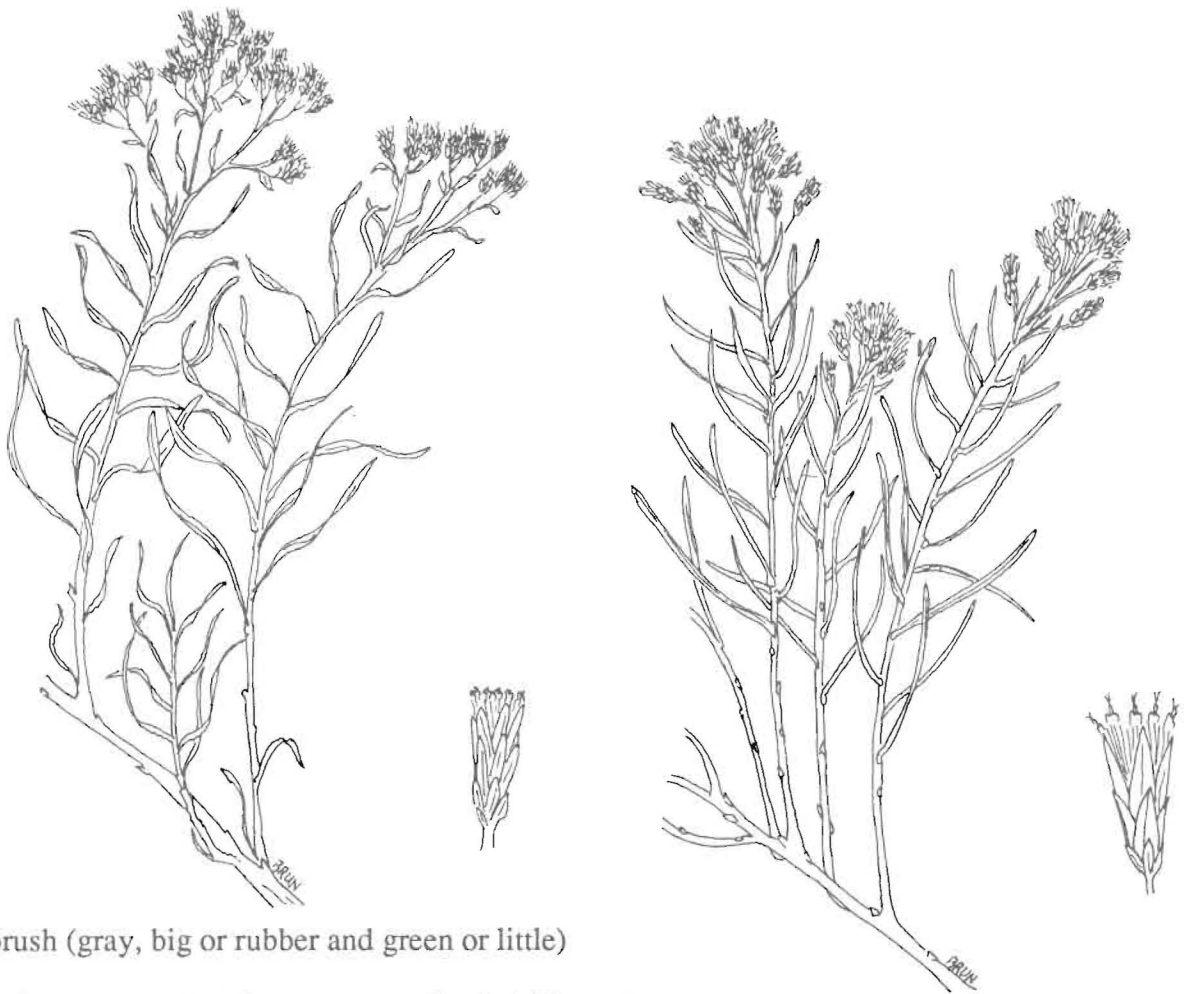
*Pachistima myrsinites*

A native evergreen shrub with opposite toothed leaves and inconspicuous flowers located where the leaves attach to the stem.

**Ecology and habitat:** Flowers from April through June. Pachistima is a habitat indicator in the understory of grand fir, western red cedar and western hemlock. Under pines, Douglas-fir and spruce it may occur on some north slopes where the soils are moist and medium-textured.

**Grazing potential and management:** Pachistima is unpalatable to livestock and is poor forage, but is important because of its wide distribution in forested rangeland. Where there is a shortage of desirable forage, such as along driveways or on winter range, sheep will browse it. Big game make some use of it on summer and winter ranges.

**Rehabilitation potential:** An increase of pachistima in relation to more desirable forage species indicates a downward trend in range condition. Management should be keyed on the vigor and reproductive potential of more desirable species.



rabbitbrush (gray, big or rubber and green or little)

*Chrysothamnus* species (*C. nauseosus*, *C. viscidiflorus*)

Native deciduous shrubs with clusters of yellow flowers in the fall. Gray rabbitbrush has narrow gray woolly leaves, not twisted much. Green rabbitbrush has twisted green leaves with few, if any, hairs.

**Ecology and habitat:** Rabbitbrush occurs throughout the sagebrush/bunchgrass and bunchgrass regions but is usually inconsequential in undisturbed areas. Disturbances, tillage, overgrazing, or fire increase their abundance. Their plumed seeds travel better than unplumed seeds of sagebrushes and their ability to sprout after mechanical damage or burning give them a decidedly competitive edge. Gray rabbitbrush is favored by deep sandy soils. Green rabbitbrush is tolerant of relatively saline soils. A general opinion is that there is so much within species variability that varieties may compensate for environmental differences.

**Grazing potential and management:** Rabbitbrush is poor to fair forage and use is minor except in the absence of other forages. One localized study reported gray rabbitbrush as 85% of elk winter diet.

**Rehabilitation potential:** Rabbitbrushes are relatively short-lived shrubs heavily dependent upon reproduction by seed. They aren't common in vigorous, good to excellent condition grassland. They are relatively susceptible to herbicides. Programs to improve the competitiveness of grasses, through management or seeding, with or without herbicides, should gradually reduce rabbitbrush.



redstem ceanothus (red soapbloom, Oregon teatree)

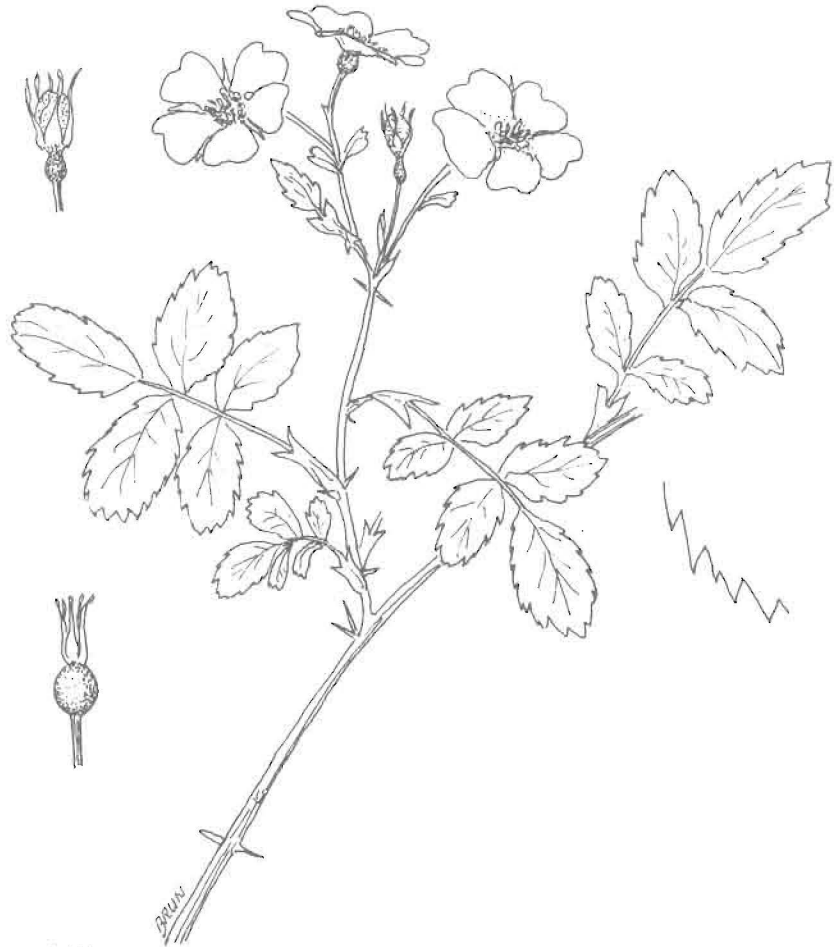
*Ceanothus sanguineus*

A native deciduous shrub with three-ribbed alternate leaves. White flowers are in a long cluster on the usually leafless lateral branches of the previous year's growth.

**Ecology and habitat:** Flowers from May to July. Redstem ceanothus occurs as scattered individuals in ponderosa pine and mountain brush communities. It is an important species in burned areas of Douglas-fir and cedar hemlock associations. Tolerance to shade is low and once it is overtopped by other shrubs or trees it dies out.

**Grazing potential and management:** In climax communities under trees or shrubs redstem ceanothus is fair forage for sheep, cattle and big game. When in an opening or following fire, it is good and sometimes excellent forage for cattle, sheep and big game. Use starts in the fall and is heaviest on winter range.

**Rehabilitation potential:** Redstem ceanothus is not highly tolerant of grazing and decreases with overuse. When fire kills the above ground portion, sprouting occurs. In addition, seed stored in the duff layer germinates and establishes quickly following fire. As long as it is not overtopped or hedged closely, it is competitive.



rose (wild rose and woods rose)

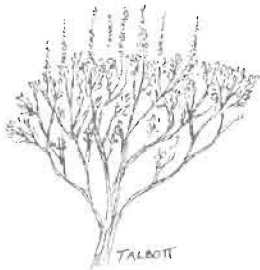
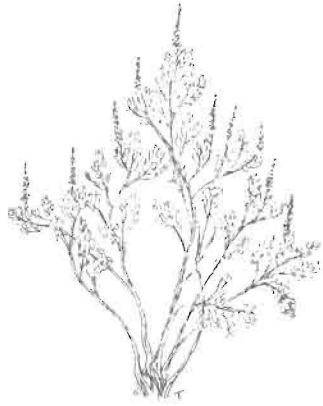
*Rosa* species (*R. nutkana* or *R. woodsii*)

Native deciduous shrubs with compound toothed leaves and light pink to deep rose flowers.

**Ecology and habitat:** Roses are widespread species occurring on a variety of sites from the Idaho fescue/snowberry association into the ponderosa pine and Douglas-fir associations. Usually plants are scattered but with good conditions they will sometimes form patches or thickets.

**Grazing potential and management:** Most roses are poor forage for cattle and fair forage for sheep. The less prickly species tend to be more palatable. They are fair to good forage for big game depending on the associated vegetation. The season of browsing is usually fall or winter. Many birds including upland game species are sustained by the dry fruits when little other food is available.

**Rehabilitation potential:** In the Idaho fescue/snowberry association, as well as forest associations where roses occur, heavy grazing will cause them to increase, indicating a downward trend in range condition. Rangeland dominated by wild rose can be rehabilitated by herbicides, where there is a desirable understory, or herbicides plus fire and seeding, in the absence of an understory.



sagebrush (basin, big, Wyoming or mountain)

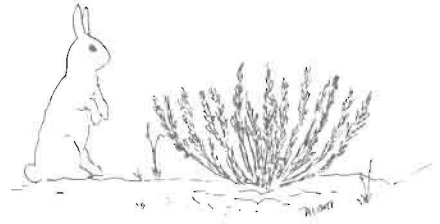
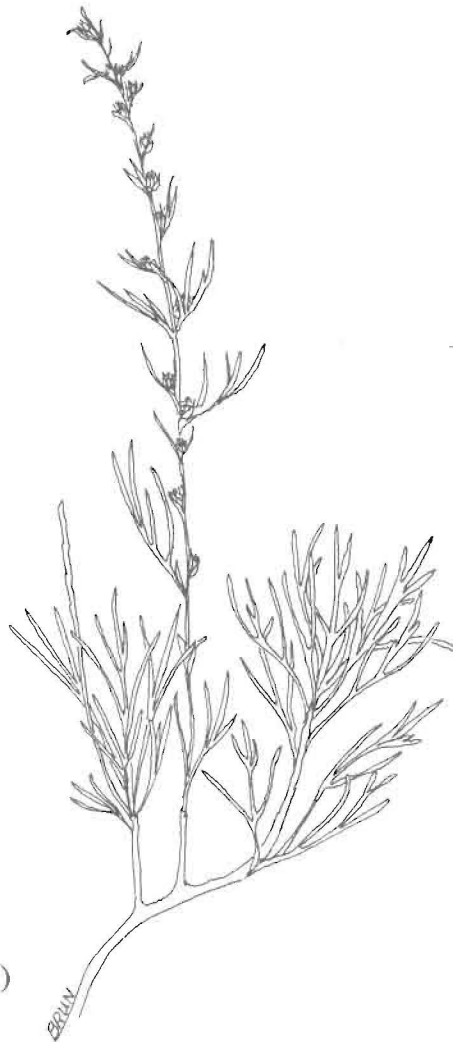
*Artemisia tridentata*

An evergreen shrub with a characteristic single, multi-branched main stem and a three-toothed, wedge-shaped leaf. Size is highly variable. Shape also varies. The lower elevation types have thick bases and irregular crowns. The higher elevation types have slender bases and flat crowns.

**Ecology and habitat:** Growth begins early and continues relative to the site and its moisture pattern. Sagebrush occurs on soils ranging in texture from coarse to fine but does poorly on alkaline soils. The more vigorous the brush, the better the site. Settlers used big sagebrush as an indicator of good farmland. It is well-rooted, both shallow and deep, and is an excellent competitor.

**Grazing potential and management:** Sagebrush is poor to fair forage when used in the fall or winter. Big game make some use of it; the amount depending on what else is available. It is important to sage grouse as both cover and food. Where it occurs naturally it increases under grazing pressure. It can also invade adjacent grasslands.

**Rehabilitation potential:** Removal of sagebrush where it dominates (20-25% cover) has increased understory production by 2 to 4 times the pretreatment level. It can be removed by burning, spraying or mechanical techniques. Ranges that have been reduced to poor or low fair condition should be seeded following the removal of the sagebrush. Following sagebrush removal, manage ranges with a fair stand of residual grass to improve grass vigor (competitiveness) or sagebrush will reoccupy the site.



sagebrush (scab, stiff or rigid)

*Artemisia rigida*

A low-growing (12 to 16 inches), much-branched, deciduous shrub with silvery hairy leaves that are deeply divided into three to five narrow segments.

**Ecology and habitat:** Scab sage is dominant in the scab sage/sandberg bluegrass association that occurs on shallow, stony soils within the big sagebrush/bunchgrass types and upwards into the Douglas-fir. Commonly this shrub is found on biscuit and swale topography where the soils are characteristically less than 12 inches deep (Washington's channeled scablands).

**Grazing potential and management:** Scab sage is poor forage for cattle and fair forage for sheep, elk and deer. It is commonly browsed in winter. Where associated grasses and forbs are available scab sage increases at their expense. When grazed by sheep on winter range it may decrease.

**Rehabilitation potential:** Although scab sage grows in a fairly wide range of climatic conditions it is believed to be restricted to shallow and/or stony soils. On many of these, even in excellent condition, there is too little foliage to carry a fire--they are therefore virtually immune to fire. The productive potential doesn't warrant spraying and the soil conditions (rockiness) would make mechanical control or seeding difficult. In summary they are best managed to maintain or improve that which is available. Flag the shallow scab sage pockets out of areas being sprayed for big sagebrush control.



serviceberry (sarvisberry, saskatoon)

*Amelanchier alnifolia*

A native deciduous shrub with oblong alternate leaves, toothed on the outer half, and white flowers that produce purplish fleshy berries.

**Ecology and habitat:** Serviceberry has a wide distribution and grows under a variety of environmental conditions. It is found on dry, rocky slopes in full sunlight or under a canopy and moist, deep fertile soils with an overstory of aspen, ponderosa pine or other conifers.

**Grazing potential and management:** Serviceberry is good forage for sheep and big game and fair forage for cattle. Where it is especially vigorous (on bunchgrass ranges) or is not being grazed, it will increase. On forested sites where it is used by both livestock and big game it decreases. On most ranges where it is mixed with forbs and grasses it is grazed in the fall and winter, but on shrub ranges it is also used in the spring.

**Rehabilitation potential:** On bunchgrass ranges serviceberry is considered intermediate in desirability and its increase indicates a downward trend. On mountain shrub ranges and timbered ranges it is desirable and a good stand indicates good condition livestock or game range. Seed can be used in mixed seedings. Recovery following burning has been excellent on big game winter ranges.





snowberry

*Symphoricarpos albus*

A native deciduous shrub with round white berries and opposite oblong leaves.

**Ecology and habitat:** Snowberry is the shrub of the Douglas-fir/snowberry association and the Idaho fescue/snowberry association. It is also common in many other associations from the foothills up through the mountains. It is most common on well-drained soils of the drier forest habitats and moist grassland habitats.

**Grazing potential and management:** Snowberry is fair forage for cattle and good forage for sheep when grazed in the fall. It is fair winter feed for deer when it isn't covered by snow. Grouse make some use of the berries. With overgrazing this species increases but severe hedging kills it.

**Rehabilitation potential:** An increase of snowberry, if combined with a measurable decrease in desirable plants indicates a downward trend in range condition. Herbicides can be combined successfully with fire and seeding on accessible, productive sites. At this level of productivity rehabilitation is preferable to purchase of additional land.



snowbrush ceanothus (shinyleaf ceanothus, snowbrush, buckbrush)

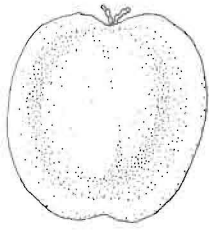
*Ceanothus velutinus*

A native, evergreen aromatic shrub with shiny, green three-veined leaves. The clusters of small white flowers are found near the ends of the branches.

**Ecology and habitat:** Flowers from June to August. Snowbrush ceanothus occurs in the mountain brush, ponderosa pine, Douglas-fir, grand fir, spruce, aspen and subalpine fir zones. Preferred soils are well drained but it grows on any aspect, both in the shade and in the open. It is common on burned areas; dormant seeds in the duff germinate with exposure to heat.

**Grazing potential and management:** Snowbrush is poor forage for sheep, cattle and big game. It is sometimes used when better forage is not available. When seeds are present it increases after fire regardless of range management efforts. In open forest types, particularly open ponderosa pine or a south slope in the Douglas-fir zone, it tends to increase with misuse of the native forage species.

**Rehabilitation potential:** Snowbrush in dense stands on burned areas or clearcuts provides good soil cover but retards tree regeneration. It has little value as forage for livestock. The only control that has been both economical and successful is an herbicide as a broadcast foliar spray.



spiny hopsage (grayia, spiny sage, Gray's saltbush)

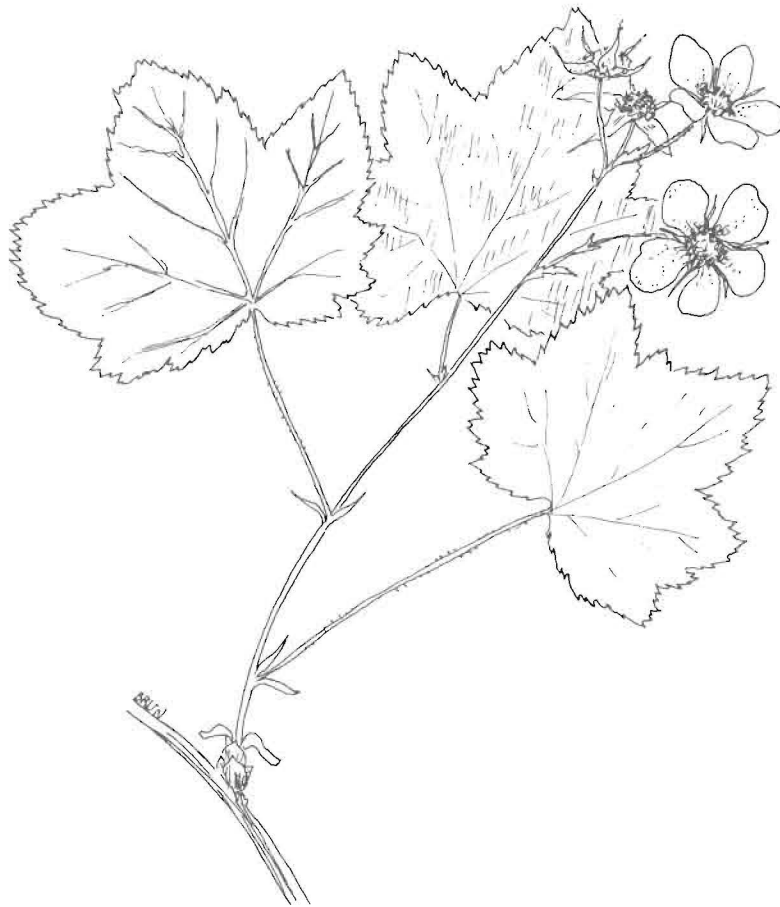
*Grayia spinosa* (*Atriplex spinosa*)

A native shrub with spiny twigs, striped bark and narrow, oblong alternate leaves. Flowers are in clusters and have showy rose-tinged bracts.

**Ecology and habitat:** Spiny hopsage is a dominant or codominant in the transition zone between the big sagebrush and shadscale associations. Mostly a desert shrub, it will grow on some moist sites. The effective annual precipitation where it survives ranges from 7 to 15 inches. It is found on some sites in the big sagebrush/bluebunch wheatgrass association.

**Grazing potential and management:** Spiny hopsage is fair forage for cattle and good forage for sheep. Upland game birds, antelope and deer feed on the fruits and twigs. Sheep graze it on fall and winter ranges or on spring lambing ranges. Cattle use is mainly on winter range. Proper use is generally from 40 to 60% of the current year's growth.

**Rehabilitation potential:** On areas where it is occasional and there are desirable grasses, forbs and other shrubs, spiny hopsage will increase with overgrazing, especially with use by cattle. On areas where it is dominant there is usually little variety in species and it will decrease with overuse, especially if grazed by sheep. It sprouts from the crown following herbicide spraying.



thimbleberry (whiteflowering raspberry)

*Rubus parviflorus*

A native deciduous shrub with large soft alternate leaves, white flowers and a red fruit.

**Ecology and habitat:** Flowers from May to July. Thimbleberry grows in moist soils in the shade. It is found near streams and in ponderosa pine, Douglas-fir, grand fir, western red cedar, hemlock, subalpine fir and aspen associations. Soils vary from deep and fertile to thin and stony, but all are moist.

**Grazing potential and management:** Palatability is variable depending on location and associated species. Generally it is poor to fair forage for cattle and fair to good forage for sheep. Occasionally, due to the lack of other forages in the shaded drainages where it is found, it is overgrazed and decreases.

**Rehabilitation potential:** With overuse of either big game range or livestock range, thimbleberry increases. Heavy use indicates a depleted range. An increase of thimbleberry over time indicates a downward trend. Fire reduces thimbleberry, allowing growth of other more palatable species until thimbleberry becomes reestablished.



willow

*Salix* species

Native deciduous trees or shrubs with catkins and simple alternate leaves.

**Ecology and habitat:** Flowers from early spring into summer. Willows occur in a variety of habitats. They are generally not shade tolerant, occur on a variety of soils and seem best adapted to streambanks or areas on slopes with water near the surface.

**Grazing potential and management:** Willows are fair forage for cattle and good (sometimes excellent) forage for sheep and big game. The leaves and twigs (grazed any season) become more palatable later and are used primarily during fall and winter. Willows are an extremely important part of lower elevation streamside vegetation. They provide a stabilizing influence for the aquatic environment that results in lower daytime and higher nighttime temperatures. Their roots aid in the formation of pools and reduce the likelihood of erosion.

**Rehabilitation potential:** On ranges an increase of willows may indicate overuse. Willows commonly appear when the removal of trees changes the environment, for example, burns or clearcuts. Most species indicate a water source and transpire water at high rates. Removal of willow around springs can greatly increase water flow. They can be controlled chemically using a foliar spray or stem application.

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