

CMG GardenNotes #352

Weed Descriptions

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Summer Annuals

Common Mallow, *Malva neglecta*

- Most frequent in cultivated ground, gardens, newly seeded lawns, or stressed lawns that lack density; found at 4,500 to 7,000 feet in elevation
- Prostrate, low-spreading annual, biennial, or perennial; deep taproot; foliage similar to geranium, pinkish-white flowers, fruits look like small round wheels of cheese
- Increase turf density
- Pull plants from moist soil
- Pre-emergent herbicides are effective
- Post-emergent herbicides can be effective

Common Purslane, *Portulaca oleracea*

- Summer annual, found in newly seeded or thinning, non-vigorous lawns and also in cultivated garden sites; up to 8,500 feet in elevation
- Smooth, thick, succulent, alternate (to sub-opposite) edible leaves; small yellow flowers in leaf axils; stems are smooth and reddish; plant is sprawling, prostrate, forming dense vegetative mats from shallow fibrous root system
- Increase turf density
- Pulls easily when soil is moist; easily re-roots after cultivation—remove and dispose of plant
- Pre-emergent herbicides may be helpful
- Post-emergent herbicide use is more effective when plants are young; difficult to kill with an herbicide when larger

Crabgrass, *Digitaria sanguinalis*

- Low-growing, prostrate, summer annual grass; leaf blades wider and lighter green color than Kentucky bluegrass with leaf sheaths with long stiff hairs
- Base of stems are often reddish-purple in color; plant spreads by rooting at the lower stem nodes as well as by seed; forms seedheads below mowing height; seedheads are composed of slender, finger-like spikes
- Crabgrass is less prevalent when turf has good density; mowing too low promotes crabgrass seed germination; maintain mowing height at 2.5 to 3 inches.
- A pre-emergent herbicide applied correctly and at the proper time should provide control; do not use a pre-emergent herbicide on a newly-seeded or sodded lawn or when overseeding a lawn
- Post-emergent “crabgrass killer” sprays are not effective unless crabgrass plants are at the young seedling stage

Green Foxtail, *Setaria viridis*

- A summer annual grass with wider blades and a lighter green color than Kentucky bluegrass
- Faster growing than Kentucky bluegrass; seedheads (known as spikes) have bristles that give it a fuzzy appearance; may form a seedhead despite regular mowing
- Foxtail is much less prevalent when turf has good density; resod or reseed bare spots

- A pre-emergent herbicide applied correctly and at the proper time should provide control; do not use a pre-emergent herbicide on a newly-seeded or sodded lawn or when overseeding a lawn
- Post-emergent herbicides will kill foxtail seedlings (but not mature plants)

Kochia, *Kochia scoparia*

- Very prevalent in disturbed soils, cultivated fields, gardens
- In spring, seedlings have alternate leaves; lower leaves often wider than upper leaves; underside of leaves hairy, margins hairy
- Flowers are yellow, inconspicuous; seed production occurs from July to October
- Stems are 1 to 6 feet tall
- In fall, entire plant first becomes reddish-brown, then brown, becomes “tumbleweed”
- Germinates early; use pre-emergent herbicides before soil temps reach 38°F
- Post-emergent herbicides can be effective
- Mulch inhibits seedling development

Netseed Lambsquarters, *Chenopodium berlandieri*

- Summer annuals prevalent in disturbed soils, gardens, cultivated fields, waste areas
- Extremely variable in appearance; stems 1 to 6 feet tall, grooved, often reddish tinged; undersides of leaves whitish, mealy (mottled, granular appearance)
- Flowers inconspicuous, greenish, at tips of stems and leaf axils; seed production occurs from July to September
- Edible when plant is young and tender
- Competitive weed with rapid growth and high water use
- Can be hoed or pulled when young
- Pre-emergent herbicides applied at the right time in spring can provide good control
- Post-emergent herbicides can be effective
- Mulch inhibits seedling development

Prostrate Knotweed, *Polygonum aviculare*

- Prostrate summer annual from a thin taproot; tough, durable plant common along sidewalks, in turf that is stressed and less vigorous, and in gardens; found to 9,500 feet in elevation
- Thrives in dry, compacted soils or wherever there is excessive foot traffic
- Forms a tough, wiry mat of stems that are enlarged at each joint as well as a papery sheath at each leaf node; to differentiate from spurge, broken stem does not produce a milky sap; leaves and stems are not hairy, and leaves are alternate
- Flowers small, white, inconspicuous; found where leaf meets stem; produces many seeds
- Annual core aeration spring and/or fall will reduce knotweed infestation
- Apply pre-emergent herbicides in late fall/winter (knotweed can germinate in February or March)
- Post-emergent herbicides are mostly ineffective after plants become larger

Prostrate Spurge, *Chamaesyce maculate*

- Prostrate summer annual forming dense mats; found in thinning, less vigorous turf
- Leaves are opposite and each leaf has a reddish-purple spot in the center; small pinkish flowers in leaf axils; stems and leaves are both hairy; sap is milky latex; some people develop a rash after skin contact with sap
- Increase turf density
- Plants can be pulled and bagged if soil is moist; wear gloves because of the sap
- Post-emergent herbicides can be effective

Redroot Pigweed, *Amaranthus retroflexus*

- Coarse, summer annual; fast growing to 12 to 36 or more inches tall; dependent on moisture received
- Alternate leaves vary in appearance, but have prominent veins and midrib
- Lower stem reddish or red-striped; roots pink-red even down the taproot
- Flowers/seedheads at top of plant; prickly; produces many small black seeds
- Very toxic to cattle and swine
- Found in waste areas, gardens, disturbed soils, and in turf if thin and patchy in quality
- Hoe or pull from moist soil before seedheads mature; bag plants if pulled later
- Easy to kill with most herbicides, but apply according to label directions well before seedheads mature; herbicides suggested only where large numbers of plants exist or where large areas are infested

Scentless chamomile, *Matricaria perforata*

- Noxious weed in Colorado List B
- Annual forb that can persist as a biennial or shortlived perennial
- Stems of the plant are green, erect, often branched, glabrous, or slightly pubescent, and can range in height from 6 to 20 inches tall
- Leaves are alternate, 1 to 2 inches long, slightly pubescent or glabrous, and are finely divided into several short thread-like segments
- Terminal flowers are 0.75 to 1.25 inch in diameter, with a daisy-like appearance consisting of white petals surrounding a central yellow core
- Key to control is reducing seed production; hand pulling is effective, but may not be practical in larger patches; mowing conducted early in the growing season before plants flower and prior to seed production will reduce populations
- Maintaining healthy stands of desirable vegetation can also be an effective control measure because scentless chamomile seedlings cannot tolerate intense competition
- Post-emergent herbicides can be effective

Winter Annuals

Downy Brome/Cheat Grass, *Bromus tectorum*

- Noxious weed in Colorado (List C)
- Winter annual, extremely abundant in intermountain west; after maturity can become a fire hazard, especially when dry; found at 4,000 to 9,000 feet in elevation
- Leaf sheaths and blades are covered by dense soft hairs

- Droopy seedheads develop in spring; long awns; prolific seed producer; plants turn reddish brown in early summer (mid to late June), and then fade to a blond color
- Competes vigorously with other perennial grasses for moisture because of its winter and early spring growth habit; root growth during winter can occur until soil temperature goes below 37°F
- Hand-pulling effective for small infestations—repeat pulling over the season is necessary, as seeds will germinate irregularly; extract as much root as possible to prevent re-growth
- Infrequent in mowed turf; in the landscape, glyphosate (Round-up and others) works well in early spring prior to seedhead appearance; best when non-target species are dormant

Shepherd's Purse, *Capsella bursa-pastoris*

- Small winter annual with small white flowers early in spring; common in cultivated gardens and roadsides; common up to 9,000 feet in elevation
- Slender stems from basal rosettes; leaves are hairy below, smooth above, and often deeply lobed; seed pods are heart-shaped (or purse-shaped); seed production from April to September
- Hand-pulling or hoeing before seed set is very effective—get on it early!
- Post-emergent herbicides should be labeled for use in turf grass

Biennials

Dame's Rocket, *Hesperis matronalis*

- Noxious weed in Colorado (List B)
- Can be a short-lived perennial
- Was introduced as an ornamental
- Flowers have four petals, are purple or white, clustered in loose stalks, and fragrant
- Mature plants range from 1 to 3 feet tall
- Can be aggressive in the landscape
- Pulling or cutting flower heads before seed set will control the plant, but this will need to be repeated for several years to exhaust seed bank
- For larger infestations, post-emergent herbicides can be effective
- Do not buy seed mixes that contain this plant

Diffuse Knapweed, *Centaurea diffusa*

- Noxious weed in Colorado (List B)
- A biennial, short-lived perennial, or occasionally an annual
- The plant develops a single shoot (stem), 1 to 2 feet tall that is branched toward the top; first year rosette leaves and lower shoot leaves are finely divided; leaves become smaller toward the top of the shoot and have smooth margins
- Many solitary flowering heads occur on shoot tips; they are about one-eighth inch in diameter and 0.5 to 0.66 inch long; flowers usually are white but may be purplish; involucre bracts are divided like teeth on a comb and tipped with a slender spine that makes them sharp to the touch; sometimes the bracts are dark-tipped or spotted like spotted knapweed; the long terminal spine differentiates diffuse from spotted knapweed
- It reproduces and spreads from seed—keep from going to seed; hoeing or hand pulling before the plant goes to seed can accomplish this

- For larger areas, post-emergent herbicides can be effective
- Cultural controls include revegetating with desirable grasses
- Biological controls include the seedhead flies *Urophora affinis* and *U. quadrifasciata* and root-feeding insects such as the diffuse knapweed root beetle (*Sphenoptera jugoslavica*), the yellow-winged knapweed moth (*Agapeta zoegana*), and the knapweed root weevil (*Cyphocleonus achates*)

Musk Thistle, *Carduus nutans*

- Noxious weed in Colorado (List B)
- Musk thistle is a biennial or winter annual that can grow up to 8 feet tall
- Leaves are up to 10 inches long, dark green with a light green midrib, spiny, and deeply lobed; often have a white margin
- Solitary, lightly spiny, and nodding flower heads develop at the stem tips in midsummer and grow to a diameter of 1.5 to 3 inches and are deep rose to violet
- The key to control is not to let the plant go to seed; herbicides and hand pulling the rosette are both effective
- Applications should be made in late spring/early summer and again in the fall

Prickly Lettuce, *Lactuca serriola*

- Biennial or winter annual to 48 inches tall from a large taproot; invades disturbed garden soils
- Cut stems/leaves exude a “milky juice”; more common in areas from 4,500 to 6,000 feet
- Upper leaves lobed like oak leaves and are often twisted to lie in a vertical plane, also known as “compassplant” because leaves may “point” to north and south; lower leaves often not as lobed; leaves have prominent spines on back side of midrib
- Small yellow daisy-like flowers on elongated stems; seedheads are like those of dandelion
- Hoe or pull from moist soil before yellow flowers mature
- Easy to kill with most herbicides, especially when younger; apply according to label directions well before seedheads mature; herbicides suggested only where large numbers of plants exist or where large areas are infested

Yellow Sweet Clover, *Melilotus officinalis*

- Biennial herbaceous plants; second year plants grow 3 to 5 feet high and are bush-like; sweet clovers are very fragrant
- Leaves are alternate, divided into three finely toothed leaflets; middle leaflet grows on a short stalk
- Flowers are crowded densely at the top 4 inches along a central stem; each flower is attached by a minute stalk
- There are one or two hard small seeds per flower; they stay viable in the soil for 30 years
- Strong taproot
- Can be good forage; however, moldy hay made from yellow sweet clover (or hay made from drought stressed or frost-damaged plants) is toxic to livestock (contains coumarin which converts to dicoumarin, a blood thinner)
- The key to controlling sweet clovers is to keep them from flowering and then concentrate on depleting viable seeds in the soil
- Hoe, hand pull, or spray with post-emergent herbicide when young

Simple Perennials

Curly Dock, *Rumex crispus*

- Leaves emerge from stout taproot in spring
- Elongated leaves have wavy (curly) margins.; leaves mostly basal, with long petioles
- Stems 2 to 4 feet tall, reddish, ridged; nodes sheathed with clear membrane
- Flowers greenish, May
- Winged fruits on flowering stems, reddish-brown
- Habitat—Fields, roadsides, railroads, waste ground, disturbed sites, turf/landscape
- Dig taproot, must remove at least 75% of the taproot to control
- Post-emergent herbicides can be effective

Myrtle Spurge, *Euphorbia myrsinites*

- Noxious weed in Colorado (List A)
- Mat-forming perennial to 9 inches tall
- Escaped ornamental; formerly sold as a drought-tolerant ground cover
- Blue-green succulent leaves form a “donkey tail”; has chartreuse bracts (“flowers”)
- For small infestations, dig or pull out clumps with caution; white latex sap from stems and leaves can cause severe dermal reactions—always wear gloves if hand pulling
- For larger infestations, use an herbicide; the best time to treat myrtle spurge with herbicide is during late fall
- *Eradication of all plants is required throughout Colorado.* If you see it, contact your county weed supervisor or the state weed coordinator!

Spotted Knapweed, *Centaurea maculosa*

- Noxious weed in Colorado (List B)
- A short-lived, noncreeping perennial that reproduces from seed (primary means of spread)
- Produces one or more shoots that are branched and 1 to 3 feet tall; rosette leaves can be 6 inches long and deeply lobed
- Leaves are similar to diffuse knapweed
- Lavender to purple flowers are solitary on shoot tips and about the same size as diffuse knapweed flowers; involucre bracts are stiff and black-tipped; the tip and upper bract margin have a soft, spine-like fringe and the center spine is shorter than others
- For control measures, see diffuse knapweed

Creeping Perennials

Bouncingbet, *Saponaria officinalis*

- Noxious weed in Colorado (List B)
- An escaped ornamental, aggressive in landscapes and wild areas
- Spreads aggressively through rhizomes and seeds
- White to pink five-petaled flowers are clustered at the ends of branches
- Leaves are opposite, smooth, and have three veins from base

- Mature plants are up to 3 feet tall
- Saponins in plant are toxic to livestock
- Can be controlled by mowing or pulling several times a year—before seed production
- Post emergent herbicides can be effective

Canada Thistle, *Cirsium arvense*

- Noxious weed in Colorado (List B)
- Colony-forming creeping perennial spreading primarily by horizontal roots (can grow as much as 18 feet in one season!) and to a lesser degree by seed; found from 4,000 to 9,500 feet in elevation
- Flowers are purple and are borne in clusters; spiny foliage with variable leaf shapes; when mowed in a lawn, will not develop full height and flower
- Highly invasive species; control is difficult because of its extensive root system; pulling generally is not effective due to the tremendous reserves in the root system; *regular, persistent* pulling may gradually starve root system; shoots should be pulled as they are noticed, as all shoots (leaves) are producing food reserves
- Increase density and competitiveness of turf
- Post-emergent herbicides can be effective
- Vinegar is a contact herbicide and will only brown leaves; these will be replaced by new shoots; frequent applications may be effective
- Biocontrol insects include a seed head weevil, a stem-mining weevil, and a gall-forming fly; these may not be significantly effective alone but can provide good results when combined with other control methods; biocontrol insect releases are best suited to large acreage infestations; backyard releases are generally impractical

Common Tansy, *Tanacetum vulgare*

- Noxious weed in Colorado (List B)
- Introduced from Europe as an ornamental and medicinal herb
- Found in yards, along roadsides, stream banks, and in waste places
- Spreads by rhizomes, can reach 3 to 4 feet tall
- Flowers are button-shaped and yellow in flat-topped clusters
- Leaves are deeply divided into narrow leaflets and rank smelling
- Is toxic to livestock, although unpalatable
- Mowing before seed production can limit spread, although it may have to be repeated several times in a season to prevent regrowth from rootstocks
- Hand pulling in damp soil can remove small infestations; wear gloves; will readily regrow from fragments in soils
- For larger infestations, post-emergent herbicides can be effective

Creeping Woodsorrel/Oxalis, *Oxalis corniculata*

- Prostrate, creeping perennial from slender taproot; stems root where they touch the ground
- Leaves have a shamrock appearance; plants often mistaken for a clover; leaves may “fold up” at night or on cloudy days; leaves turn purplish with the arrival of cooler weather in fall; some plants may have purplish leaves year-round
- Small yellow flowers
- Fruits “explode” when mature, scattering seed often more than 10 feet

- More common in thin, less vigorous turf given too frequent, light irrigation; increase turf density
- Pre-emergent herbicides may be helpful
- Post emergent herbicides can be effective

Field Bindweed, *Convolvulus arvensis*

- Noxious weed in Colorado (List C)
- Creeping perennial; found as high as 10,000 feet in elevation; general range 4,000 to 8,000 feet
- Vining, sprawling, prostrate growth habit; may climb by twining around fence wire or around stems of other plants; not shade tolerant but drought tolerant due to large roots; leaves are arrowhead-shaped; attractive, white or pink bell-shaped flowers that resemble morning glory from late June until frost
- Increase density and competitiveness of turf
- Control is difficult because of its extensive root system, which can penetrate the soil profile to a depth of 20 feet; seeds also can remain viable for 20 to 50 years; pulling generally is not effective due to the tremendous reserves in the root system; *regular, persistent* pulling may gradually starve root system; shoots should be pulled as they are noticed, as all shoots (leaves) produce food reserves
- Post-emergent herbicides can be effective
- The bindweed mite has been used as a biological control with some success; initial impact is reduction of growth and limited flower and seed production; mowing moves mites around and stimulates plant growth for mites to feed on; survival is better in drier settings; excessive moisture may limit establishment; contact your local Colorado State University Extension office for information

Hoary Cress (White Top), *Cardaria draba*

- Noxious weed in Colorado (List B)
- A creeping perennial that reproduces by seed and creeping roots; one of the earliest perennial weeds to emerge in the spring
- It grows erect from 10 to 18 inches high and has a white color
- The alternate leaves clasp the stem and are oval or oblong with toothed or almost smooth margins; the leaves are often covered with very fine white hairs; each leaf is 0.5 to 2 inches long with blunt ends
- The flowers are white, one-eighth inch across, and numerous in compact flat-top clusters, which give the plant its name; each heart-shaped seed pod contains two oval, finely pitted, red-brown seeds each about one-twelfth inch long
- Due to the rhizomes of this perennial weed, mechanical control provides minimal control; diligent digging can provide control of very small infestations; hand pulling of above-ground plant parts is ineffective; successful digging requires complete plant removal within 10 days after weed emergence throughout the growing season for 2 to 4 years; cultivation 6 inches deep must be repeated within 10 days of weed emergence throughout the growing season for 2 to 4 years
- Revegetate with desirable vegetation
- Post-emergent herbicides can be effective

Leafy Spurge, *Euphorbia esula*

- Noxious weed in Colorado (List B)
- An erect plant that grows 1 to 3 feet tall
- Leaves are bluish-green with smooth margins, 0.25 inch to 0.5 inch wide, and 1 inch to 4 inches long
- Umbel flowers are surrounded by heart-shaped, showy, yellow-green bracts (an umbel looks like the stays of an umbrella if it is held upside down); flowers occur in many clusters toward the top of the plant; seeds are round to oblong, about one-twelfth inch long, gray or mottled brown with a dark line on one side
- Leafy spurge contains a white milky latex in all plant parts; latex distinguishes leafy spurge from some other weeds (e.g., yellow toadflax), particularly when plants are in a vegetative growth stage
- Leafy spurge has an extensive root system that is abundant in the top foot of soil, and it may grow 15 feet deep or more; roots contain substantial nutrient reserves that allow the weed to recover from stress, including control efforts; many vegetative buds along roots grow into new shoots
- Use a combination of methods to control leafy spurge; vigorous grass helps weaken leafy spurge through competition
- Post-emergent herbicides can be effective

Orange Hawkweed, *Hieracium aurantiacum*

- Noxious weed in Colorado (List A)
- Shallow, fibrous roots
- Leaves are hairy, spatula shaped, up to 5 inches long, and basal
- Extensive stolons create a dense mat that practically eliminates other vegetation—makes mechanical control very difficult once established
- Stems and leaves exude a milky latex when cut or broken
- Up to 30 half-inch red to orange flowers appear in late May or June
- Post-emergent herbicides can be effective
- *Eradication of all plants is required throughout Colorado.* If you see it, contact your county weed supervisor or the state weed coordinator!

Oxeye Daisy, *Chrysanthemum leucanthemum* or *Leucanthemum vulgare*

- Noxious weed in Colorado (List B)
- A perennial from rhizomes with characteristic “daisy-like” flowers
- Plants initially develop as a basal rosette; lower rosette leaves occur on petioles and are from 1.5 to 6 inches long; leaves are lobed
- Flowers are white with a yellow center and range from 1.25 to 2 inches
- Oxeye daisy should be mowed as soon as flowers appear to reduce seed production; root systems are shallow and the plant can be dug up and removed; hand removal will have to be continued for several years because seeds may remain viable in the soil for a long time
- Post-emergent herbicides can be effective
- Native daisies are a good, non-invasive garden alternative

Purple Loosestrife, *Lythrum salicaria*

- Noxious weed in Colorado (List A)
- Escaped ornamental, aggressive in riparian areas
- Square stem, whorled leaves
- Purple-magenta flowers with five to seven petals in long racemes
- If left unchecked, a wetland may become a monoculture of loosestrife
- Control of small infestations can be managed through digging all the plants and roots—this will need to be monitored for a few years
- Large infestations should be controlled with an aquatic-labeled herbicide
- *Eradication of all plants is required throughout Colorado.* If you see it, contact your county weed supervisor or the state weed coordinator!

Quackgrass, *Elytrigia repens*

- Noxious weed in Colorado (List B)
- Very aggressive creeping perennial grass especially in moist soils; found from 4,500 to 9,000 feet in elevation; spreads by seeds and invasive rhizomes (underground stems)
- Rhizomes are yellow-white, with brown sections; rhizome ends are sharp-pointed and can penetrate hard soils; base of leaf blade with claw-like appendage that clasps the stem
- Believed to be allelopathic (release of a chemical that inhibits growth of nearby plants)
- Mechanical control is difficult as any rhizome segment produces new plants
- A few quackgrass plants can be spot-sprayed with glyphosate, or individual blades can be painted with glyphosate; note that glyphosate will kill any bluegrass it contacts; repeat applications will likely be needed
- Renovate severely infested lawn areas—spray area with glyphosate; repeat applications will likely be needed; ensure that quackgrass is killed before areas are resodded or reseeded

Russian Knapweed, *Centaurea maculosa*

- Noxious weed in Colorado (List B)
- Creeping perennial that reproduces from seed and vegetative root buds
- Emerges in early spring, bolts in May to June, and flowers through the summer into fall
- Shoots or stems are erect, 18 to 36 inches tall, with many branches; lower leaves are 2 to 4 inches long and deeply lobed; upper leaves are smaller, generally with smooth margins, but can be slightly lobed; shoots and leaves are covered with dense gray hairs
- The solitary, urn-shaped flower heads occur on shoot tips and generally are 0.25 to 0.5 inch in diameter with smooth papery bracts; flowers can be pink, lavender, or white
- Has vertical and horizontal roots that have a brown to black, scaly appearance, especially apparent near the crown
- Toxic to horses; allelopathic to other plants
- The key to Russian knapweed control is to stress the weed and cause it to expend nutrient stores in its root system
- An herbicide alone will usually not effectively manage Russian knapweed; combine treatment with perennial grasses sown in late fall; tillage is necessary to overcome the residual allelopathic effects of Russian knapweed

White Clover, *Trifolium repens*

- Creeping perennial that forms runners that root at nodes
- Many people like clover in lawns, while others find white flowers and the bees they attract objectionable
- A legume that fixes nitrogen, so it is often found in lawns having low fertility
- Increase turf density with proper watering, mowing, and fertilization
- Post-emergent herbicides can be effective

Wild Violet, *Viola* spp.

- Heart-shaped leaves on long petioles, purple flowers in spring; may also spread by rhizomes
- Difficult to control due to resistance to many herbicides
- Improve light penetration to shaded areas by pruning trees and shrubs
- Mow lawn higher to increase competition from grass
- Best control may be to pull plants when ground is moist
- Post-emergent herbicides can be effective

Yellow Toadflax, *Linaria vulgaris*

- Noxious weed in Colorado (List B)
- Yellow toadflax is a perennial that spreads sideways by underground rhizomes and by seeds
- Flowers are small, yellow, look like snapdragons, and bloom mid-late summer; leaves are linear
- Some people confuse a native plant, golden banner, with toadflax, but golden banner blooms very early and has three leaves, like a clover
- Yellow toadflax is difficult to control; its extensive root system lets it recover from control attempts
- Yellow toadflax is very variable, genetically; therefore the effectiveness of herbicides is also variable
- Hand pulling can be effective on small patches, especially in gravelly soils when you can pull a large part of the root; it will need to be pulled for several years; pull *before* it goes to seed
- Post-emergent herbicides can be effective

Woody Plants

Russian Olive, *Elaeagnus angustifolia*

- Noxious weed in Colorado (List B)
- Small tree 10 to 25 feet tall originally planted as an ornamental and for windbreaks
- Leaves are narrow and appear silvery
- Branches have long thorns 1 to 2 inches in length
- Small sweet smelling yellow flowers are followed by a berry-like fruit which is spread by birds
- Has become a serious weed in low-lying pastures, meadows, and waterways

- The most effective control is to cut the tree and immediately paint the stump with a herbicide
- Silver buffalo berry is an excellent native alternative plant

Tamarisk, *Tamarix ramosissima*

- Noxious weed in Colorado (List B)
- Tamarisk was sold as an ornamental plant for gardens during the 1800 and 1900s; tamarisk has now spread to most of the western United States, displacing the native cottonwoods and other plants
- Plants can grow to 6 inches tall during the first 2 months and can grow over 18 feet tall; the taproot can reach 100 feet down with a root spread of up to 150 feet; adventitious roots can produce new trees when buried!
- Mature tamarisk trees can produce millions of pollen-size seeds dispersed through wind and water; seeds can germinate while floating and establish themselves on wet banks within 2 weeks; newly formed sand banks are particularly susceptible; trees may reproduce in the first year, but typically they reproduce during the second year
- It is very “thirsty”—one tree can use up to 300 gallons per day, and it alters hydrologic conditions in riparian areas
- Salt glands on the leaves release salt, increasing salinity of soil
- Tamarisk is difficult to control; single treatment approaches to control tamarisk have not proven feasible because no method completely eliminates tamarisk or its regeneration; use revegetation in conjunction with other methods
- The saltcedar leaf beetle, *Diorhabda elongaa*, has been released on some stands, and has shown to be fairly effective

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- Colorado Master Gardener *GardenNotes* are available online at www.cmg.colostate.edu.
- Colorado Master Gardener training is made possible, in part, by a grant from the *Colorado Garden Show, Inc.*
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Revised December 2011