What's that Weed?
Noxious Plants of Clear Creek County

Created and Presented by the Clear Creek County Master Gardeners Colorado State University Extension
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DEFINITIONS

• Native Plant
  • Developed over 100s to 1000s of years in region or ecosystem
  • Only plants found the US before European settlement

• Exotic Plant
  • Not native to continent on which it is now found
  \(\text{e.g., plants from Europe are exotic in North America}\)
DEFINITIONS

• Non-Native Plant
  • Introduced with human help (intentionally or accidentally) to new place or habitat
  • Can’t reproduce or spread readily without continued human help (e.g., many ornamentals)
  • Not all non-natives are invasive

• Weed
  • Plant (native or non-native) not valued in the place it is growing
DEFINITIONS

• Invasive Plant
  • Non-native (exotic)
  • Can establish on many sites
  • Grows quickly and spreads to the point of disrupting plant communities

• Noxious plant
  • Legal definition
  • Designated by Federal, State or County government as injurious to public health, agriculture, recreation, wildlife or property

(Sheley, Petroff, and Borman, 1999)
COLORADO NOXIOUS WEED ACT

• Since 1990, the Colorado Department of Agriculture has protected the state’s natural resources by enforcing rules and regulations to control noxious weeds

• County and City governments required to implement management plans
COLORADO NOXIOUS WEED LIST

**List A:**
must be eradicated wherever found in CO - all County, State, Federal and private lands

**List B:**
must be managed to stop the continued spread of the species*; often these plants are too well established to eradicate

*Some are also “designated” for eradication in certain counties*
COLORADO NOXIOUS WEED LIST

List C: not required to be managed because of their widespread population; however, a local governing body may elect to manage them.

Watch List: may pose potential threat to agricultural productivity and environmental values of Colorado.
HOW DID THEY GET HERE?

Hitch-hike on undercarriage of vehicles, shoes and animals

Ship ballast, boat motors
HOW DID THEY GET HERE?

Nursery stock  Ornamental seed mixes

What is native or non-invasive in one state might be invasive in another state!
HOW DID THEY GET HERE?

Illegal trade

Illegal to sell or trade Giant Salvinia banned for trade or transport across state lines;
CONTROL METHODS

• Prevention!
  • Plant only weed free seed
  • Mulch with weed free materials
  • Most cost-effective method

• Mechanical – dig, mow, remove seed heads

• Cultural – overseed with natives to crowd out
CONTROL METHODS

• Biological – natural enemies (beneficial insects that only feed on certain species)

• Chemical – judicious use of chemicals can compliment other control methods
CHEMICAL CONTROL METHODS

• May be most efficient and effective method of control
• CSU doesn’t necessarily promote chemical use, or which chemicals to use... if want to use, educate yourself!
• Herbicides are toxic
• Not all will work on every weed
• Some have restrictions around water

Should you choose to use chemical controls, please do so safely:
Always read, understand and follow the label instructions.
THE LABEL IS THE LAW!
LIST A

• Designated for eradication
• 25 species in Colorado
• 6 known species in Clear Creek County

Knotweeds (Japanese, Giant and Bohemian)

Cypress spurge

Orange hawkweed

Myrtle spurge
Cypress Spurge (*Euphorbia cyparissias*)

- Perennial
- 4-32” tall
- Leaves
  - Alternative
  - Small and narrow
- Heart-shaped, leaf-like bracts below inconspicuous flowers
- Flowers
  - Yellowish-green at tip of main stem and upper branches
Cypress Spurge (*Euphorbia cyparissias*)

- Plant contains milky latex toxic to horses and cattle; irritating to skin of people
- Escaped ornamental, popular in xeriscaping and rock gardens
- Extensive root system so difficult to manage manually ... best not mow or till!
- Herbicide may be effective
Myrtle Spurge (*Euphorbia myrsinites*)

- Perennial
- 4-8” tall w/ 18” spread
- Flower-like bracts, yellow-green in early spring
- Reproduces by seed and plant fragments
- Seed heads explosive
  - Can project up to 15 ft
  - Viable for up to 8 years
- Leaves and stems have caustic, milky latex that can cause skin irritation
Myrtle Spurge (*Euphorbia myrsinites*)

- Escaped ornamental that crowds out natives
- Combine herbicide or mechanical removal of rosettes w/ removal of flowering parts from any plants that have bolted
- Can be removed manually
  - With care ... use gloves!
  - Take care to collect plant fragments
- Alternatives – sulphur flower or kinnickinnick
Orange Hawkweed (*Hieracium aurantiacum*)

- Perennial forb
- 12” tall
- Flowers mid-June to August
  - 5-30 flower heads on erect, slender stems
- Leaves
  - Basal leaves form dense mat
  - Bristly with milky juice
- Spreads by rhizomes, stolons and seed
- Prefers moist sites like mountain meadows
Orange Hawkweed (*Hieracium aurantiacum*)

- Tough to control manually
- Still sold in some wildflower mixes
- Mowing reduces seed production but encourages vegetative spread
- Hand pull or dig up small infestations but dig deeply to remove rhizomes
- Increasing fertilization may allow other desirable species to outcompete (may promote other weeds though too!)
- Herbicides can be effective
- Don’t confuse with our native orange *Agoseris*!
Knotweeds (*Polygonum* spp.)

- Japanese, Giant and Bohemian
- Herbaceous perennial sub-shrub to 10 ft
- Stems hollow, jointed, reddish-brown w/ swollen nodes
- Leaves
  - Alternate along stem
  - Up to 6” long, 5” wide
- Flowers
  - Small and greenish-white
  - Hang in clusters
  - Late summer
- Fruit 3-sided, black and shiny
Knotweeds (*Polygonum* spp.)

- Seedlings emerge in April to August
- Extensive rhizome system up to 18 ft wide
- Root and stem fragments form new colonies
- Plants die back after hard frost, but return in spring
- Likes partially shaded, moist habitats, tolerates range of soil types / pH
- Produces allelochemicals from roots – inhibit germination of other plants
- Hand pull or till when young (and soil soft)
- Treat w/ herbicide after cutting back
LIST B

• Designated for management to stop spread
• Some municipalities and counties may designate them for eradication
• 40 species in Colorado
• Clear Creek County has 23 species
Absinth Wormwood (*Artemisia absinthium*)

- Perennial forb
- 3-5 ft tall
- Strong sage odor
- 20+ stems from taproot, covered in fine silky hairs
- Leaves
  - Deeply lobed, light to olive green
  - 2-5” long
- Flowers
  - Small, yellow, numerous
  - Late summer
Absinth Wormwood (*Artemisia absinthium*)

- Pastures, cropland, farmsteads, roadsides and waste areas
- Dies back but WILL be back
- Reproduces by seed or root fragments
- Reduces available forage, taints milk of cattle
- Can dig out if all taproot is removed, including short horizontal roots
- Can mow bigger populations
- Herbicide control effective
Black Henbane (*Hyoscyamus niger*)

- Annual or biennial forb
- 1-3 ft tall
- Rosettes large w/ hairy leaves and saw-tooth margins
- Mature plant stems coarse and hairy
- Flowers
  - Brownish-yellow w/purple center and purple veins
- Reproduces by seed – each fruit contains hundreds of seeds
Black Henbane (*Hyoscyamus niger*)

- Poisonous to humans and livestock
- Used as medicinal plant and historically for beer flavoring
- Common in pastures, waste areas and wetlands
- Cutting / mowing effective (but before seed set)
  - Tough because of coarse stems
- Hand-pulling okay... wear gloves to prevent rashes
- Herbicides effective
Bouncingbet (*Saponaria officinalis*)

- Perennial forb
- 1-3 ft tall
- Stems stout, erect, smooth and usually unbranched
- Leaves
  - Lanceolate, paired, 3 distinct veins
  - 1 ¼ - 4” wide, ½ - 2” wide
- Flowers
  - 5-petaled, slightly notched
  - Light pink to white, fragrant
  - July to September
- Seeds dull black and roundish
Bouncingbet (*Saponaria officinalis*)

- Roots short, coarse and almost woody
- Toxic to grazing animals (but rarely grazed)
- Grows in dense patches in right-of-ways, meadows, and disturbed areas
- Escaped ornamental
- Mechanical control NOT recommended since produces clonally from root system
- Dig single plants / new infestations only when soil is moist enough to ensure all roots excavated
- Herbicides effective
Bull Thistle (*Cirsium vulgare*)

- Biennial (sometimes annual) forb
- 1 ½ - 6 ft tall
- Rosette can be up to 1 ft wide
- Stems erect
  - Many spreading branches
  - Slightly hairy w/ spiny wings
- Short, rough hairs, not woolly
- Flowers
  - Dark purple to pinkish-purple
  - ¾ - 5” wide w/ spiny bracts
  - July to Sept
Bull Thistle (*Cirsium vulgare*)

- Spreads by seed (up to 4,000 seeds / plant)
- Taproot up to 2 ft long
- Pastures, roadsides, ditches, hayfields, disturbed prairies and logged mountain areas
- Grows up to 9,000’ elevation
- Mowing / hand pulling effective
  - Be sure plants do not flower
  - If cut too early before flowering, plants may re-sprout and flower again
- Herbicides effective
Scotch Thistle (*Onopordum acanthium*)

- Biennial forb
- Grows to 10 ft tall
- Stems upright w/ broad spiny wings
- Entire plant finely hairy to woolly
- Leaves
  - Rosette forms 1st year w/ leaves up to 2 ft long and 1 ft wide
  - Bluish to grayish green, toothed w/ spines
- Disturbed sites, roadsides
- Up to 8,000 ft elevation
Scotch Thistle (*Onopordum acanthium*)

- **Flowers**
  - 1-2 in wide
  - Globe shaped
  - 2-3 on branch tips w/ spiny, needle-like bracts below
  - June-August
- **Reproduces by seed**
- **Forms dense stands**
  - Can be too dense for livestock to walk through
- **Mechanical control effective if done before seeding**
  - Best at rosette stage
- **Herbicides effective**
Musk Thistle (*Carduus nutans*)

- Biennial forb
- 2-6 ft tall
- 1+ stems from base, highly branched

**Leaves**
- First year rosettes usually large
- Wavy, white outlined margins
- Deeply lobed, spines on the edges

**Flowers**
- Appear in second season
- 1 ½-2 ½ in, solitary
- Purple, showy, nodding when mature
- June to October
Musk Thistle (*Carduus nutans*)

- Reproduces only by seed (up to 20,000 seeds/plant)
- Highly competitive
- Invades disturbed areas, pastures, rangelands and forests
- Up to 9,000 ft in elevation
- Can be dug out
- Herbicides effective
Canada Thistle (*Cirsium arvense*)

- Perennial forb
- 1 – 4 ft tall
- Rosette forms every spring
- Stems erect, hollow; lower stem covered with fine hairs
- Stems many branched
- Branches slightly hairy w/ spiny wings
- Leaves
  - Lance-shaped w/ spine tipped lobes
  - Hairless or fine hairs
Canada Thistle (*Cirsium arvense*)

- **Flowers**
  - Pink to purple, $\frac{1}{2}$-\(\frac{3}{4}\)” wide
  - June to August
- **Roots extensive, fleshy, creeping**
  - 75% of plant can be underground
  - Forms colonies
- **Likes moist soil, pastures, croplands, waste areas**
- **Very aggressive**
- **Shallow tillage increases numbers**
- **Herbicides effective**
Chinese Clematis (*Clematis orientalis*)

- Perennial herb / woody climbing vine
- Stems 10-15 ft long, gray-brown bark
- Roots 5-10 ft long... impossible to dig out
- Flowers
  - Yellow, single
  - July to October
  - Seed heads fluffy, conspicuous all winter
- Found in many habitats – forests, riverbanks, sand gullies, rocky outcroppings
Chinese Clematis (*Clematis orientalis*)

- May be toxic to wildlife
- Hand pull or dig when soil is moist (but still very difficult!)
  - Make certain to pull all the roots
  - Bag specimens carefully so as to not scatter seeds
- Herbicides effective
- Easily confused with native clematis... leaves similar
- Native clematis has groups of small white flowers
Dalmation Toadflax (*Linaria* spp.)

- Two species – narrow and broad leaved (broad in CCC)
- Perennial forb
- 1-3 ft tall
- Leaves
  - Waxy, smooth w/ bluish cast
  - Alternate, dense and wrap around stem
- Flowers
  - Yellow w/ orange throat
  - 2-lipped with long spur (snapdragon-like)
Dalmation Toadflax (*Linaria* spp.)

- Introduced as ornamental
- Reproduces by seed and roots (extensive, deep)
- Well adapted to arid sites, rangelands and forests
- Herbicide effective
- Hand pulling / digging small populations effective but need to continue for 5-6 years
- Don’t confuse with native golden banner!
Yellow Toadflax (*Linaria vulgaris*)

- Perennial forb
- 1-2 ft tall
- Stems are erect, simple or sparingly branched
- Leaves
  - Alternate, linear
  - Pale to gray-green
- Flowers
  - Yellow w/ bearded orange throat
  - 1" long
  - Late June into September
Yellow Toadflax (*Linaria vulgaris*)

- Escaped ornamental (aka butter and eggs)
- Problematic in rangelands, forests and pastures
- Prior to flowering, resembles leafy spurge, but lacks milky latex
- Reproduces by seed and underground root stock (makes hard to control)
- Cultivation should begin early summer and be repeated every 21 days; one year of thorough cultivation (8+ times) may eliminate high percentages
Dame’s Rocket (*Hesperis matronalis*)

- Biennial (or short-lived perennial) forb
- ½ - 3 ft tall
- Leaves
  - Alternate, 2-4” long
  - Lanceolate w/ fine toothed margins
- Flowers
  - White or purple w/ 4 petals
  - Clustered in loose terminal stalks
  - Can have several clusters at various stages of development
    - enables plant to produce flowers and seeds at same time
Dame’s Rocket (*Hesperis matronalis*)

- Most seed germinates following year, but some can remain dormant for years
- Escaped ornamental... still sold in some “native” wildflower seed mixes
- Establishes almost anywhere – very adaptable
- Shallow fibrous root system – can dig it out (but may resprout if entire root system not removed)
- Herbicides effective
- Flower and seed head removal effective
- Fireweed is a look-a-like!
Diffuse Knapweed (*Centaurea diffusa*)

- Biennial, but sometimes annual or short-lived perennial forb
- 1½ - 2 ft tall
- Leaves finely divided, reduced as plant matures
- Spiny bracts have pronounced tip and fringed edges
- Flowers
  - Mostly white, sometimes lavender
  - July to August
Diffuse Knapweed (*Centaurea diffusa*)

- Seeds germinate in spring or late summer, forming a tap-rooted rosette
  - One plant can produce 18,000 seeds
  - Seed heads retained, becomes tumbleweed in winter

- Herbicides effective

- Planting competitive natives in conjunction with herbicides
Russian Knapweed (*Acroptilon repens*)

- Perennial forb
- ½ – 3 ½ ft tall
- Stems upright and branched
- Leaves
  - Lower 2-4 in long, upper smaller
- Flowers
  - Pink to lavender
  - ¼ – ½ in wide
  - Distinct papery bracts below
  - June to August
- Fruit parachute-like structure, small seed
Russian Knapweed (*Acroptilon repens*)

- Toxic to horses
- Reproduces by aggressive, creeping, horizontal roots that are black with scaly appearance
- Toxic to horses
- Forms dense colonies
- Herbicides effective
- Planting competitive natives in conjunction with herbicides
- Tilling may be necessary to overcome residual allelopathic effects
Spotted Knapweed (*Centaurea maculosa*)

- Biennial or short-lived perennial forb
- 1-3 ft tall
- Stems upright and rigid, w/ 1+ branches
- Stout taproot
- Leaves
  - ¾ - 1 ½” long
- Flowers
  - Pinkish-purple
  - Usually single
  - June to October
Spotted Knapweed (*Centaurea maculosa*)

- Reproduces only by seed (up to 140,000 seeds/plant)
- Confused with diffuse knapweed but has dark spots on bracts and lacks terminal spine and fringe on bracts
- Problematic in rangelands, forests, pastures
- Herbicides effective
- Planting competitive natives in conjunction with herbicides
Hoary Cress (*Cardaria draba*)

- Perennial forb
- 1-2 ft tall
- Leaves
  - Starts as rosette
  - Blue-green, lanceolate
  - Upper alternate, clasping and oval or oblong w/ toothed or almost smooth margins
- Flowers
  - White w/ 4 petals and flat-topped
  - Early to mid-summer
Hoary Cress (*Cardaria draba*)

- Seeds develop within heart-shaped seed capsules
- Reproduces by seed or rhizomes
- Common on alkaline and disturbed soils, rangelands, pastures and right-of-ways
- Mechanical removal strongly discouraged
  - Small, broken root fragments can be left behind to form new plants
- Herbicides effective
Perennial Pepperweed (*Lepidium latifolium*)

- Perennial forb
- 1-3 ft tall (can get up to 6 ft)
- Leaves
  - Waxy
  - Distinct white midrib
  - Lower have toothed margins
  - Upper are stalkless, don’t clasp stem
- Flowers
  - White
  - Dense, rounded clusters at branch tips
  - Early summer to fall
Perennial Pepperweed (*Lepidium latifolium*)

- Rhizomatous
- May be confused with other invasive – hoary cress, but much taller
- Can produce 6 billion seeds/acre
- Riparian areas, valley bottoms, seasonally wet areas
- Mechanical control not recommended
  - Small root sections will sprout new plants
- Planting competitive vegetation helps control
- Herbicides effective
  - Be careful – often growing in riparian areas
Houndstongue (*Cynoglossum officinale*)

- Biennial forb
- 1-4 ft tall
- Leaves
  - Oblong to lanceolate
  - Alternate along the stem
  - Wide, rough, and hairy
  - No teeth or lobes
- Rosettes form in 1<sup>st</sup> year of 2-season growth cycle
- Central stem bolts in 2<sup>nd</sup> season, producing flowers by mid-summer
Houndstongue (Cynoglossum officinale)

- Flowers reddish-purple
- Reproduces only be seed
- Velcro-like seeds attach to clothing and fur
- Taproot
- Problematic in forests, rangelands and pastures
- Toxic to livestock
- Cutting and properly discarding flowering stems greatly reduces seed production
- Removal of young rosettes in fall or early spring
  - Followed by reseeding / planting with desirable, fast-growing competitive plants
Leafy Spurge (Euphorbia esula)

- Perennial forb
- 1-3 ft tall
- Stems erect and unbranched except at flower clusters
- Leaves
  - Strap-shaped
  - \(\frac{1}{4}\)” wide, 1-2 \(\frac{1}{2}\)” long
- Flowers
  - Small clusters of yellow-green flowers enclosed by pair of yellow-green heart shaped bracts
  - Late spring
Leafy Spurge (*Euphorbia esula*)

- Milky latex - irritating or damaging to eyes and skin; causes blisters in foraging animals
- Adapted to variety of habitats; excludes other plants
- Reproduces by seed and roots
  - Seed heads explode to project seeds up to 30 ft
  - Roots extensive and deep
- New plants can emerge from root buds at any depth
- Mechanical removal very difficult because of root buds
- Herbicides effective
Oxeye Daisy (*Chrysanthemum leucanthemum*)

- Perennial forb
- 1-2 ft tall
- Leaves
  - Lower spoon-shaped
  - Upper very narrow, finely toothed and clasping
- Flowers
  - Solitary
  - White ray, yellow disk flowers
  - June – August
- Reproduces by seed and underground rhizomes
Oxeye Daisy (*Chrysanthemum leucanthemum*)

- Often sold in wildflower mixes
- Very aggressive
- Meadows, roadsides, waste places
- Found up to 12,000’ elevation
- Shallow root system – can be dug or pulled relatively easily
- Long-lived seed bank so control efforts need to be maintained over many years
- Closely resembles Shasta daisies
  - Shastas more robust w/ larger flowers and foliage
  - Shastas have rootball, oxeyes have creeping roots
Scentless Chamomile (*Matricaria perforata*)

- Annual or short-lived perennial forb
- 6-30” tall
- Bushy appearance
- Stems erect and smooth
- Leaves alternate; fern or feather-like
- Flowers
  - ¾ - 1 ¼ in wide
  - At end of branches
  - White w/ yellow center
  - Early summer until frost
Scentless Chamomile (*Matricaria perforata*)

- Reproduces by seed, spreads quickly
  - Seed viable as soon as flower forms
  - Buried seed viable up to 15 years
- Right-of-ways, ditches, cultivated fields and pastures
- Fibrous root system – easy to pull
- May be outcompeted by seeding desirable grasses
- Confused with oxeye and Shasta daisies but has smaller flowers and fine, ferny leaves
Common Tansy (*Tanacetum vulgare*)

- Perennial forb
- 1 ½ - 6 ft tall
- Multiple stems often purplish, dotted w/glands
- Leaves
  - Alternate
  - Deeply divided into narrow, toothed segments
- Flowers
  - Showy, yellow
  - Button-like w/o ray flowers
- Aromatic
- Rhizatomous
Common Tansy (*Tanacetum vulgare*)

- Introduced for ornamental and medicinal purposes
- Undesirable for livestock forage
- Common along right-of-ways, stream banks and pastures
- Pulling not effective – reproduces vegetatively from root fragments
- Mow / cut infestations before flowering and seed set
  - Will need to do multiple treatments
Russian Olive (*Elaeagnus angustifolia*)

- Perennial shrub or small tree
- 10-40 ft tall
- Stems w/ stiff woody thorns; may be reddish-brown
- Leaves
  - Alternate, lanceolate, light green
  - 1-3 in long, ½ - 1 ¼ in wide
- Flowers
  - Yellowish-green
- Fruit olive-like, seed is small stone (white or brown)
- Roots extensive w/ suckers
Russian Olive (*Elaeagnus angustifolia*)

- Introduced as ornamental and for wind breaks
- Serious problem along riparian corridors
- Competes w/ native trees that provide nesting and roosting for birds
- Consumes water at higher rate than natives
- Fast growing
- If possible, manually remove seedlings or saplings, including roots (can resprout)
- Cut stump or foliar herbicide treatments effective
- Girdling / cutting alone suppresses but doesn’t kill
LIST C

• Recommended for voluntary control
• Well established but should still be attacked at every opportunity
• 16 species in Colorado
• 7 known species in Clear Creek County

Field bindweed  Poison hemlock  Redstem filaree  Common burdock  Common mullein
WATCH LIST

• Serves as advisory and educational purposes only
• Suspected to have noxious qualities
• Not known to occur in Colorado but noxious in other states w/ similar habitats
• Determined to pose potential threat to Colorado’s agricultural productivity and environmental values
• 24 species
RESOURCES

Colorado Weed Management Association
www.cwma.org

Colorado Department of Agriculture
www.colorado.gov/ag/weeds

Clear Creek County - Noxious Weed Control Department
www.co.clear-creek.co.us
Click on Public Works, then Noxious Weed Management
Karl Schell – 303.679.2470

Colorado State University Extension
www.ext.colostate.edu/sam/weeds.html
FOR MORE INFORMATION

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