

NEW INVADERS OF THE NORTHWEST



RACHEL WINSTON & MARK SCHWARZLÄNDER

The Forest Health Technology Enterprise Team (FHTET) was created in 1995 by the Deputy Chief for State and Private Forestry, USDA, Forest Service, to develop and deliver technologies to protect and improve the health of American forests. This book was published by FHTET as part of the technology transfer series.

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NEW INVADERS OF THE NORTHWEST

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Introduction



Elongated mustard

Weed Issues

Invasive plants are a major concern worldwide. They displace native species and lower biodiversity, decrease forage and agricultural production, alter soil nutrient and water cycling, and lower the aesthetic value of natural areas. With the increase of world travel, exotic plant introductions are on the rise.

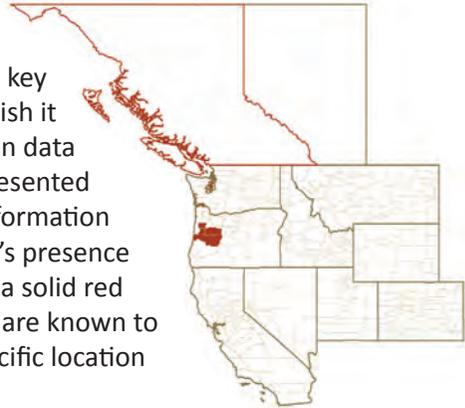
Attempting to control large weed infestations is a costly endeavor. It is much more cost effective to allocate resources toward weed prevention or rapid treatments of new introductions.

Unfortunately, the process of adding newly introduced invasive species to watch lists or control lists is frequently tedious and lengthy. By the time many exotic and invasive species are on the radar, they have become widely established. The purpose of this guide is to help land users recognize new invasive plants early on, before they become large and expensive problems.

How to Use This Guide

The species in this guide were selected by combining regional weed, watch, and new invader lists/alerts, then identifying those species that are not yet widespread throughout Northwestern North America for which sufficient information and photographs were available. It was not possible to include all new invasive species of concern in this document, but this manual serves as a good starting point.

Each plant in this guide has multiple photos and descriptions that emphasize key identification traits and ways to distinguish it from look-alike species. Plant distribution data from the USDA-PLANTS database are presented in map form for each species. Where information was available, counties where the weed's presence has been confirmed are represented by a solid red fill. Provinces and States outlined in red are known to contain the weed species; however, specific location information was not available.



Weeds often spread rapidly. Even if a weed is not documented in this guide as occurring in a specific region, it could have spread since its distribution was initially documented. Particular care should be taken when searching for species in regions surrounding known infestations because weed spread into nearby areas is likely.

If You Find a New Invader

If you positively identify one of the species listed in this manual in a new region (or if you identify a species you believe to be a new invader), notify your local weed authority immediately and devise a treatment plan to eradicate the infestation as promptly as possible. Weed hotline numbers are listed below for those States providing this service.

California 1-800-491-1899	Idaho 1-866-IDWEEDS 1-866-439-3337	Montana 1-888-488-9376	Oregon 1-866-INVADER 1-866-468-2337	Washington 360-725-5764
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Credits: Elongated mustard: Rachel Winston, MIA Consulting; Distribution data: USDA-PLANTS database

New Invaders



Bluish purple flowers	4
Green flowers	16
Pinkish purple flowers	26
Red flowers	52
Yellow flowers	54
White flowers	80
Aquatic plants	102

Basil thyme

Acinos arvensis

Family Lamiaceae

SYNONYMS: Mother-of-thyme, basil balm

ORIGIN: Europe

GROWTH TRAITS: Annual, erect plant growing 4 to 16 in (10 to 40 cm) tall.

Stems are square (branching at the base) and leaves are opposite, which is typical of this family. Leaves are hairy with small teeth near their tips.

Flowers occur in whorls of 1 to 3 from the same emergence points as the leaves. The purple, 5-petaled flowers with white centers form a 2-lipped tube; the top lip is composed of 2 fused petals and the bottom is composed of 3. They are present from late spring to early fall.



a
Plant



Flower



Leaf

REPRODUCTION: By seed only

HABITAT: Found in disturbed environments such as roadsides, pastures, and cultivated fields

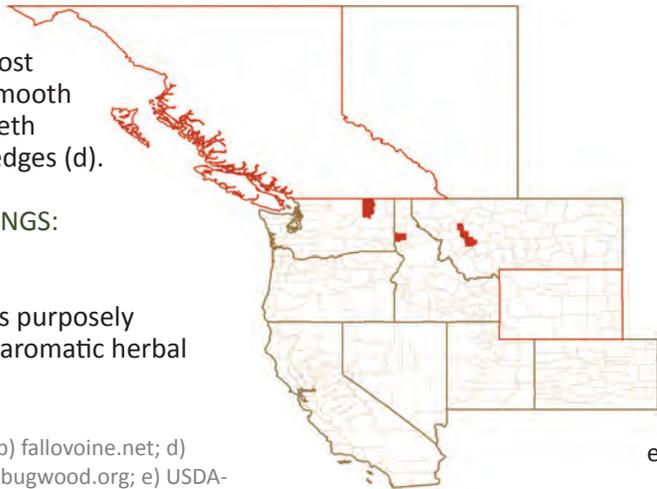
LOOK ALIKES: The opposite leaves and square stems differentiate this plant from nonLamiaceae look alike. Within the family, there are many native and exotic species in *Salvia* and *Mentha* that resemble basil thyme. The small number of white-centered flowers per whorl helps differentiate this species, as does the few number of teeth at the leaf tips. Most look alike have smooth leaf margins or teeth along entire leaf edges (d).



Look alike (*Salvia officinalis*)

NOXIOUS WEED LISTINGS:
British Columbia

NOTES: This plant was purposely introduced for its aromatic herbal properties.



e

Distribution

Credits: a & c) Bernd Gliwa; b) fallovoine.net; d) Dow Gardens Archive, www.bugwood.org; e) USDA-PLANTS database

Common bugloss

Anchusa officinalis

Family Boraginaceae

SYNONYMS: Alkanet, bee bread, common borage

ORIGIN: Europe

GROWTH TRAITS: Perennial, fleshy, and erect plant with a deep taproot. Grows 1 to 2 ft (30 to 60 cm) tall. It is a basal rosette in its first year, bolting one flowering stem the second year and several stems thereafter. Leaves are alternate, lance shaped, hairy, and larger at the base. The small, blue, 5-petaled flowers form uncurved tubes and have light-colored centers, typical of this family. They are present from late spring to early fall in cymes (arrangement similar to a fiddleneck) at the tips of stems and produce 4 nutlet fruits each.



a

Plant



Flower



Leaf



Rosette

REPRODUCTION: By seed; 4 one-seeded nutlets per flower

HABITAT: Found in disturbed environments such as roadsides, pastures, and cultivated fields

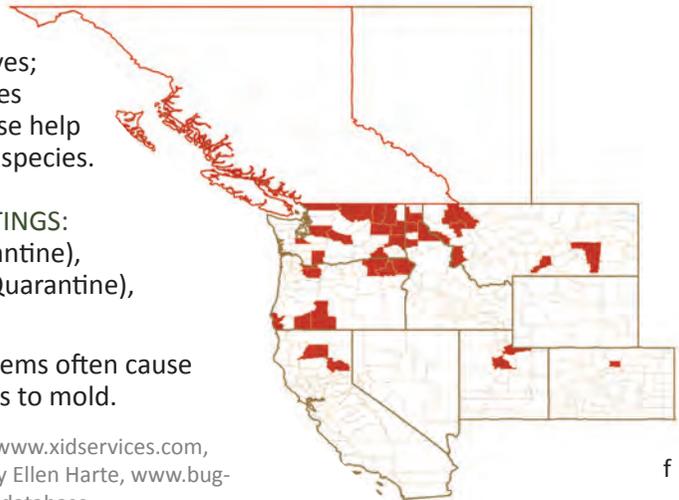
LOOK ALIKES: Can be confused with common and evergreen bugloss and several native and exotic species of *Asperugo*, *Echium*, *Hackelia*, *Lappula* (e), and *Myosotis*, which all have bluish flowers and share the Boraginaceae traits of alternate and hairy leaves, nutlet fruits, and an erect habit. The combination of small, deep blue, uncurved, tubular flowers with white centers; fleshy stems/leaves; and narrow leaves larger at their base help differentiate this species.



Look alike (*Lappula* spp.)

NOXIOUS WEED LISTINGS:
Oregon (B, Quarantine),
Washington (B, Quarantine),
British Columbia

NOTES: The fleshy stems often cause infested hay bales to mold.



f

Distribution

Credits: a - d) Richard Old, www.xidservices.com, www.bugwood.org; e) Mary Ellen Harte, www.bugwood.org; f) USDA-PLANTS database

Evergreen bugloss

Pentaglottis sempervirens

Family Boraginaceae

SYNONYMS: Green alkanet, alkanet

ORIGIN: Europe

GROWTH TRAITS: Herbaceous, perennial plant growing 2 to 3 ft (60 to 90 cm) tall with a stiff, bristly stem. Leaves are alternate, triangular shaped, bristly, and deeply veined. Basal leaves are stalked while the upper leaves are not. Brilliant blue, 5-petaled flowers $\frac{1}{2}$ in (1.2 cm) across form narrow tubes and have light-colored centers, which are typical of this family. They bloom from spring to summer in short cymes (arrangement similar to a curled fiddleneck) that arise from upper leaf axils and are subtended by 2 small leaves. Fruits are nutlets; there are 4 per flower.



a

Plant



Flower



Flowers and Leaf

REPRODUCTION: By seed; 4 one-seeded nutlets per flower

HABITAT: Found in damp and shady places such as woodlands and overgrown river banks

LOOK ALIKES: Can be confused with common and small bugloss and several native and exotic species of *Asperugo*, *Echium*, *Hackelia*, *Lappula* (e), and *Myosotis*, which all have bluish flowers and share the Boraginaceae traits of alternate and hairy leaves, nutlet fruits, and an erect habit. The combination of larger, deep blue flowers with white centers; large triangular leaves; shady habitat; and taller height helps differentiate this species from others.



Look alike (*Lappula* spp.)

NOXIOUS WEED LISTINGS:
Not listed in any State or Province

NOTES: Flowers are edible and often used as decoration in drinks and salads.



Distribution

Credits: a & c) Overblijvende ossentong; b) Ben Legler; d) Mary Ellen Harte, www.bugwood.org; e) USDA-PLANTS database

Small bugloss

Anchusa arvensis

Family Boraginaceae

SYNONYMS: Annual bugloss

ORIGIN: Europe

GROWTH TRAITS: Annual, erect plant growing 8 to 18 in (20 to 45 cm) tall with hairy stems. Leaves are alternate, lance shaped, bristly, crinkled on the margins, and somewhat warty. The small blue, 5-petaled flowers form slightly curved tubes and have light-colored centers, typical of this family. They are present from late spring to early fall in cymes (arrangement similar to a curled fiddleneck) at tips of stems. Fruits are rough nutlets; 4 are produced per flower.



a

Plant



Flower



Fruits and leaves



Inflorescence

REPRODUCTION: By seed; 4 one-seeded nutlets per flower

HABITAT: Found in disturbed environments such as roadsides, pastures, and cultivated fields

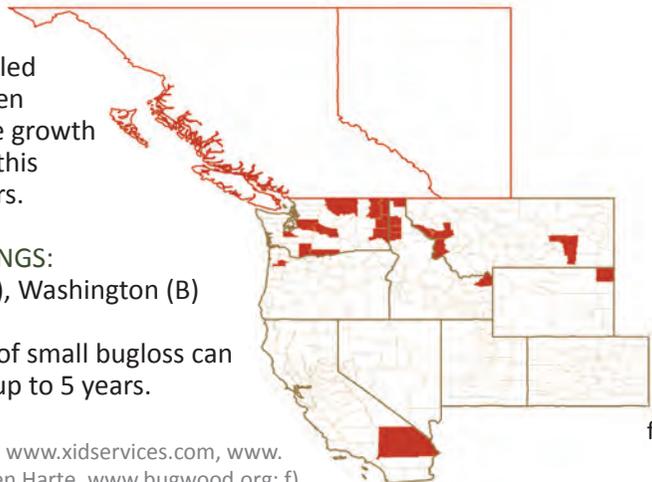
LOOK ALIKES: Can be confused with common and evergreen bugloss and several native and exotic species of *Asperugo*, *Echium*, *Hackelia*, *Lappula* (e), and *Myosotis*, which all have bluish flowers and share the Boraginaceae traits of alternate and hairy leaves, nutlet fruits, and an erect habit. The combination of small, deep blue, slightly curved, tubular flowers with white centers; short height; crinkled narrow leaves; open habitat; and dense growth help differentiate this species from others.



Look alike (*Lappula* spp.)

NOXIOUS WEED LISTINGS:
Idaho (Control list), Washington (B)

NOTES: Buried seeds of small bugloss can remain viable for up to 5 years.



Distribution

Credits: a - d) Richard Old, www.xidservices.com, www.bugwood.org; e) Mary Ellen Harte, www.bugwood.org; f) USDA-PLANTS database

Distribution

Europe & Introduced sage

Salvia sclarea & *S. pratensis*

Family Lamiaceae

SYNONYMS for Europe sage: Clary sage



Plant (Europe)



Inflorescence (Europe)

SYNONYMS for Introduced sage: Meadow clary



Plant (Introduced)



Flowers



Rosette

ORIGIN: Europe (Both species)

GROWTH TRAITS: Both species produce square-stemmed stalks up to 3.2 ft (1 m) tall with opposite leaves and whorls of 2 to 6 bilabiate (2-lipped) flowers blooming in late summer. **Europe sage** is a biennial with large, heart-shaped, and hairy leaves that nearly clasp the stem. Flowers have a large bract beneath and are lavender (top lip) and white (bottom lip). **Introduced sage** is a perennial with oblong, warty leaves that exhibit irregularly toothed margins. Flowers are purple to blue and have small bracts beneath.

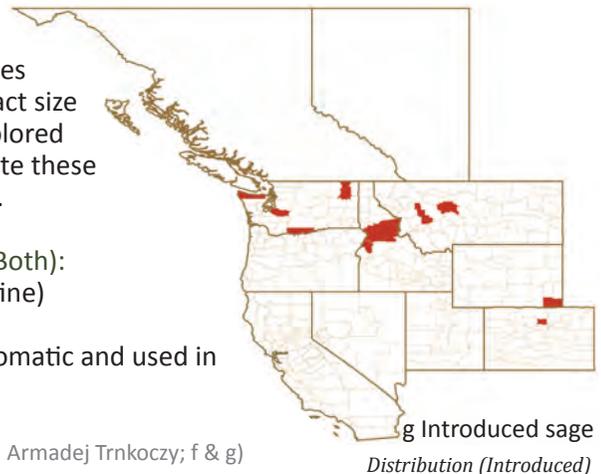
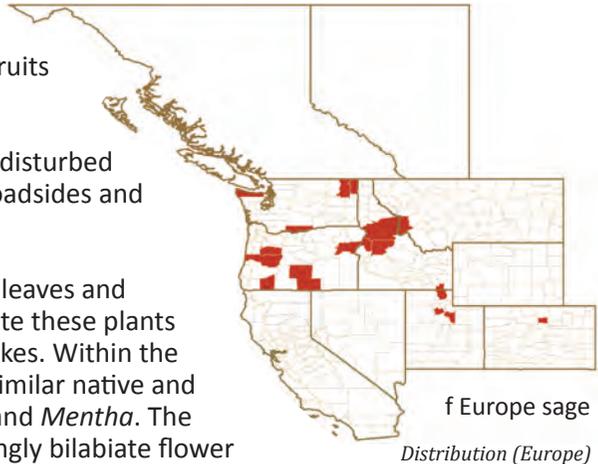
REPRODUCTION: By seed; fruits are 1-seeded nutlets

HABITAT: Both are found in disturbed environments such as roadsides and fields

LOOK ALIKES: The opposite leaves and square stems differentiate these plants from nonrelated look alike. Within the family, there are many similar native and exotic species in *Salvia* and *Mentha*. The combination of the strongly bilabiate flower shape with the plant shape of heavily flowered stems and large basal leaves helps differentiate these species from look alike. The bract size beneath the different colored flowers helps differentiate these species from each other.

NOXIOUS WEED LISTINGS (Both):
Washington (A, Quarantine)

NOTES: Both species are aromatic and used in herbal remedies.



Credits: a & b) Kurt Stueber; c - e) © Armadej Trnkoczy; f & g) USDA-PLANTS database

Salvation Jane & Viper's bugloss
Echium plantagineum & *E. vulgare*

Family Boraginaceae

SYNONYMS for Salvation Jane (SJ): Paterson's curse, blueweed, Riverina bluebell



Plant (Salvation)



Flower (Salvation)



Flower (Salvation)

SYNONYMS for Viper's bugloss (VB): Common viper's bugloss



Plant (Viper's)



Flowers (Viper's)

ORIGIN: Europe (Both species)

GROWTH TRAITS: Both species are very hairy and have spotted stems that grow up to 30 in (75 cm) tall. Leaves are linear to oblong and alternate. The flowers of both plants are present from late spring to early fall in cymes (arrangement similar to a fiddleneck). Flowers are somewhat tubular with the top petals overhanging the bottom and are subtended by bracts (1 per flower) with multiple lobes and folds. **Salvation Jane** behaves as an annual or biennial and has purplish blue flowers with dark pink stamens (male parts), 2 of which protrude beyond the petals. **Viper's bugloss** is a biennial or perennial with similar flowers and stamens, but 4 stamens protrude.

REPRODUCTION: By seed; 4 one-seeded nutlets per flower

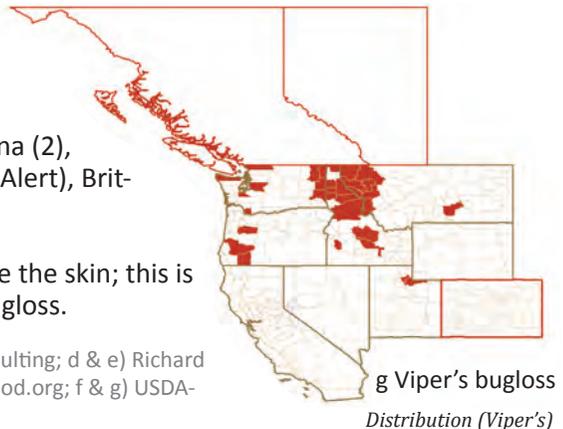
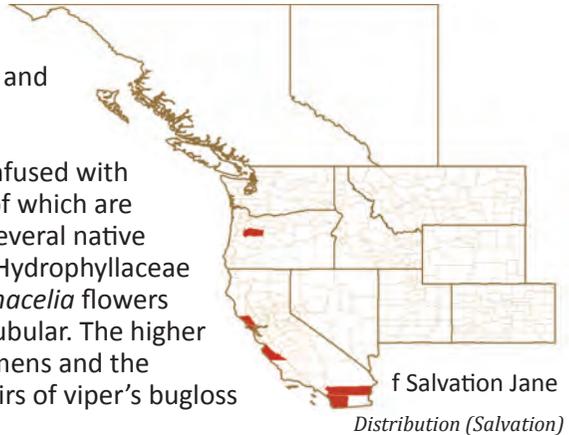
HABITAT: Found in disturbed habitats such as roadsides and fields

LOOK ALIKES: Both can be confused with other *Echium* species, all of which are exotic in North America. Several native species of *Phacelia* in the Hydrophyllaceae resemble these, though *Phacelia* flowers are symmetrical and not tubular. The higher number of protruding stamens and the sharper, more intrusive hairs of viper's bugloss help tell these species apart.

NOXIOUS WEED LISTINGS:

SJ: Oregon (A, Quarantine);
VB: Idaho (Control), Montana (2),
Washington (B), Wyoming (Alert), British Columbia

NOTES: Hairs of both can pierce the skin; this is especially true of viper's bugloss.



Credits: a - c) Rachel Winston, MIA Consulting; d & e) Richard Old, www.xidservices.com, www.bugwood.org; f & g) USDA-PLANTS database

Eggleaf & Myrtle spurge

Euphorbia oblongata & *E. myrsinites*

Family Euphorbiaceae

SYNONYMS for Eggleaf spurge (ES): Oblong spurge



Plant (Eggleaf)



Flowers (Eggleaf)



Stems and leaf (Eggleaf)

SYNONYMS for Myrtle spurge (MS): Creeping spurge, donkey tail



Plant (Myrtle)



Stem close-up (Myrtle)

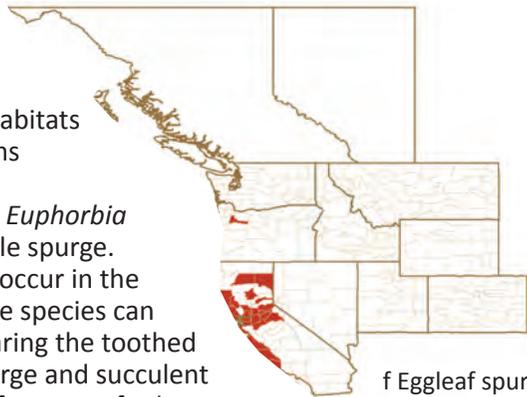
ORIGIN: Eurasia (both species)

GROWTH TRAITS: Both species are herbaceous and perennial, exuding a toxic white latex when torn. Flowers are inconspicuous, green, and surrounded by yellowish green, showy bracts. Roots are rhizomatous. **Eggleaf spurge** is erect, reaching heights of 3 ft (0.9 m). It has alternate green leaves up to 2½ in (6 cm) long with fine teeth along all margins. Stems are often hairy. **Myrtle spurge** is a spreading plant that reaches a height of 8 in (15 cm), although its leaning stems are up to 16 in (40 cm) long. Leaves are succulent, gray green, ovate with sharp tips, and arranged spirally along the succulent stem.

REPRODUCTION: By seed and severed root fragments

HABITAT: Found in disturbed habitats from moist to dry conditions

LOOK ALIKES: Many species of *Euphorbia* resemble eggleaf and myrtle spurge. The majority of those that occur in the Northwest are exotic. These species can be differentiated by comparing the toothed leaf margins of eggleaf spurge and succulent leaves of myrtle spurge to features of other exotic and native *Euphorbia*, which often lack these traits.

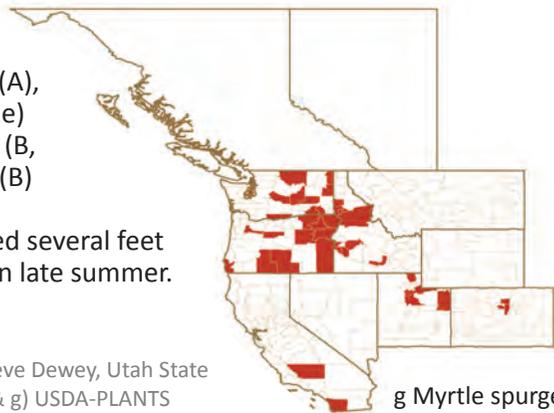


f Eggleaf spurge
Distribution (Eggleaf)

NOXIOUS WEED LISTINGS:

ES: California (B), Oregon (A),
Washington (A, Quarantine)
MS: Colorado (A), Oregon (B,
Quarantine), Washington (B)

NOTES: Seeds can be propelled several feet by the plant upon drying in late summer.



g Myrtle spurge
Distribution (Myrtle)

Credits: a - c) © CDFA 2001; d & e) Steve Dewey, Utah State University (all www.bugwood.org); f & g) USDA-PLANTS database

Giant reed

Arundo donax

Family Poaceae

SYNONYMS: Elephant grass, Carrizo, Spanish/wild/giant cane, arundo

ORIGIN: Mediterranean region throughout the Middle East to India

GROWTH TRAITS: Perennial grass reaching up to 26 ft (8 m) in height and having an extensive rhizomatous root system. The hollow stem resembles a corn stalk and has long, flat, alternate leaves up to 1½ ft (½ m) long that can appear variegated. Leaf bases are heart shaped, clasp the stem, and have small tufts of hair. Flowering occurs in late summer to early fall, when plants are most easily recognized because of the large, dense flower plumes at the tops of stems. Plumes can grow up to 3 ft (0.9 m) in length.



Plants



Leaves



Inflorescence

REPRODUCTION: Most seeds produced are infertile. This species spreads predominantly by its rhizomatous root system.

HABITAT: Wetlands such as ditches, streambanks, and lake shores with fresh or moderately saline water

LOOK ALIKES: Can be mistaken for native and exotic specimens of common reed (*Phragmites australis*, image d), a large grass growing in similar habitat and producing similar plumes. Common reed grows shorter (up to 20 ft or 6 m), has leaves that don't clasp stems, and produces runners in addition to rhizomes.



Look alike (*Phragmites australis*)

NOXIOUS WEED LISTINGS:
Nevada (A)

NOTES: Stem and rhizome pieces less than 2 in (5 cm) long that contain a single node readily sprout.



Distribution

Credits: a) Forest and Kim Starr, U.S. Geological Survey; b & c) Chris Evans, River to River CWMA; d) Richard Old, www.xidsservices.com (all www.bugwood.org); e) USDA-PLANTS database

Matgrass

Nardus stricta

Family Poaceae

SYNONYMS: No other common names for this species

ORIGIN: Europe

GROWTH TRAITS: Slow-growing perennial bunchgrass that is densely tufted and long lived. Stems grow up to 8 in (20 cm) tall. Blades are bluish green and form right angles with the stem. They can be up to $\frac{1}{4}$ in (0.6 cm) wide but are curled inward, appearing narrow and needle like. Stems are tipped by inconspicuous and unbranched seed heads that bear all spikelets and seeds on one side of the stem. This grass is tightly rooted with a fibrous and very short rhizomatous system, and therefore hard to remove.



Plant



Tuft



Roots with tuft



Inflorescence

REPRODUCTION: By seed and by the transportation of pieces of tufts (containing very small rhizomatous roots)

HABITAT: Found in rangeland (especially overgrazed), seasonally moist meadows, and pastures in mixed grass stands

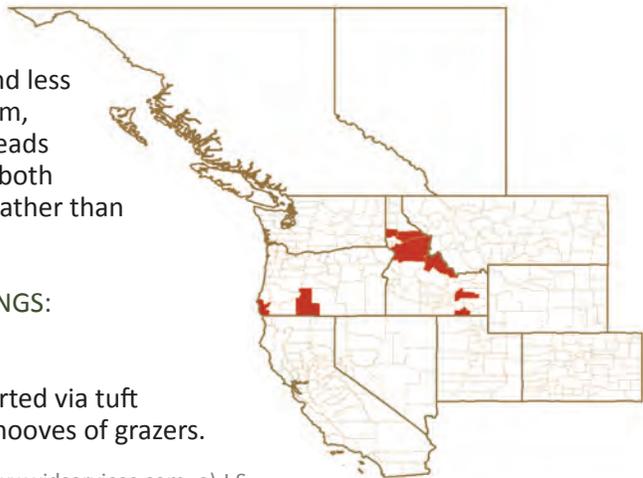
LOOK ALIKES: Though grasses can be very difficult to tell apart, this species is most easily confused with many types of fescue (*Festuca*, image e), especially before fescue produces seed. Fescues often grow taller than matgrass (usually between 5 and 24 in or 12 and 60 cm in height), they are more bunched/tufted and less rhizomatous in form, and fescue seed heads produce seeds on both sides of the stem rather than just one.



Look alike (*Festuca* spp.)

NOXIOUS WEED LISTINGS:
Nevada (A)

NOTES: Easily transported via tuft fragments on the hooves of grazers.



f

Credits: a - d) Richard Old, www.xidservices.com; e) J.S. Peterson; d - f) USDA-PLANTS database

Distribution

Slender false brome

Brachypodium sylvaticum

Family Poaceae

SYNONYMS: False brome, wood false brome

ORIGIN: Eurasia

GROWTH TRAITS: Perennial bunchgrass with individual clumps that merge to form one large mat up to 3 ft (0.9 m) tall. Leaves are drooping with bright green, flat blades up to $\frac{1}{2}$ in (1.2 cm) wide with a fringe of hairs surrounding the leaf margins. Leaves do not clasp the stem tightly, are hairy and open at their base, and have a shredded ligule at the point of attachment. They are bright green all season or year long. Spikelets of flowers are on very short stalks, are droopy and hairy, and have straight awns $\frac{1}{4}$ to $\frac{3}{4}$ in (6 to 18 mm) long.



Plant



b
Leaves



c
Leaf attachment



d
Spikelets

REPRODUCTION: By seed; can resprout from vegetative fragments; roots are not rhizomatous

HABITAT: Found in forests and woodlands, but may grow in open areas such as roadsides and streambanks under a variety of environmental conditions

LOOK ALIKES: Though grasses can be difficult to tell apart, this species is distinguished by its hairy leaf margins and lower stems, and its perennial bright green color. It is most easily confused with species of true brome (*Bromus*, e) but differs by having leaf sheaths open to the base and spikelets with no (or very short) stalks. Bromes have sheaths closed > ¼ of their length and spikelets on long stalks.



e
Look alike (*Bromus* spp.)

NOXIOUS WEED LISTINGS:
Oregon (B, Quarantine), Washington (A)

NOTES: The dense thatch this species creates in the forest understory may increase the risk of wildfire.



f

Distribution

Credits: a) Robert Soreng, Smithsonian Institution; b) Pere Prlpz; c & d) ©2010 Keir Morse; e) Robert Mohlenbrock; e & f) USDA-PLANTS database

Slender meadow foxtail

Alopecurus myosuroides

Family Poaceae

SYNONYMS: Black grass, twitch grass, black twitch

ORIGIN: Mediterranean region

GROWTH TRAITS: Winter annual that grows up to 3 ft (0.9 m) tall. Leaf blades are hairless and can be up to 8 in (20 cm) long. The leaf bases do not clasp the stem. Seed heads are dense, cylindrical, and tapered at both ends. They can be up to 5 in (12 cm) long and $\frac{1}{4}$ in (0.6 cm) in diameter and sometimes appear dark purple, giving this plant the common name of "black grass." Awns are bent and extend up to $\frac{1}{4}$ in (6 mm) beyond the seed coat. Ligules are papery with a jagged edge.



^a
Plant



Leaves/leaf nodes



Inflorescence



Inflorescence close-up

REPRODUCTION: By seed; one seed head produces 100 to 200 seeds

HABITAT: Found in moist meadows, pastures, and disturbed environments such as roadsides and cultivated fields

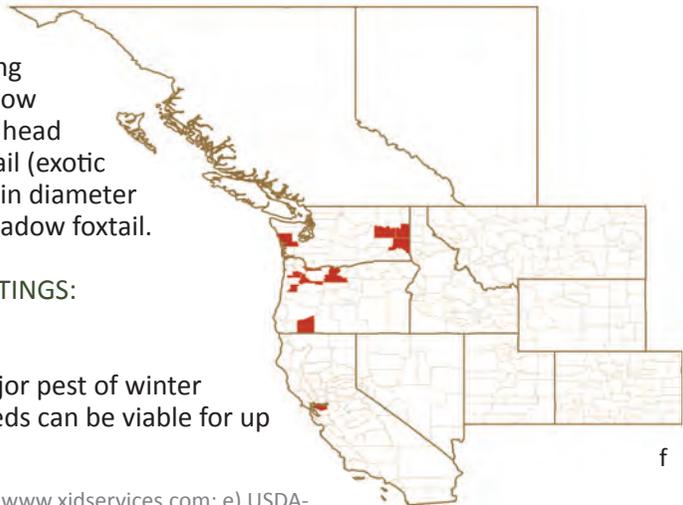
LOOK ALIKES: Though grasses can be very difficult to tell apart, this species can most easily be confused with many species of foxtail (*Alopecurus*). The awn of shortawn foxtail (native) is straight and only extends 0.1 in (2½ mm); the seed heads of Carolina foxtail (native, image d), Pacific foxtail (native), and water foxtail (exotic) are nearly half as long as slender meadow foxtail; the seed head of meadow foxtail (exotic plant) is greater in diameter than slender meadow foxtail.



Look alike (Carolina Foxtail)

NOXIOUS WEED LISTINGS:
Washington (B)

NOTES: This is a major pest of winter cereal crops; seeds can be viable for up to 7 or 9 years.



f

Credits: a - d) Richard Old, www.xidservices.com; e) USDA-PLANTS database

Distribution

Camelthorn

Alhagi maurorum

Family Fabaceae

SYNONYMS: Caspian manna

ORIGIN: Eurasia

GROWTH TRAITS: Perennial, gray green shrub that grows 2 to 3 ft (0.6 to 0.9 m) tall. Small, pea-like flowers (2 distinctive lips typical of the pea family) are produced June to August. Flowers range from pink to maroon and extend from sharp yellow spines 1 to 2 in (2½ to 5 cm) long. Reddish brown seed pods are constricted between the individual seeds and are tipped with a small beak. Leaves are small, lance shaped with smooth margins, and occur alternately up the stem. Roots are rhizomatous and extensive.



Plant



Leaf and flower b



Thorns and fruits c

REPRODUCTION: By seed and the rhizomatous root system

HABITAT: Found in moist to dry areas in disturbed soil

LOOK ALIKES: Though individual characteristics of camelthorn may resemble other plants, the combination of small, pink, and pea-like flowers; long spines; short height; and undivided, smooth-margined leaves help differentiate this species. Russian thistle (d), a member of the Chenopodiaceae, resembles camelthorn with its shrubby form and green, spiny stems. However, the exotic Russian thistle does not have showy pink flowers or lance-shaped leaves.

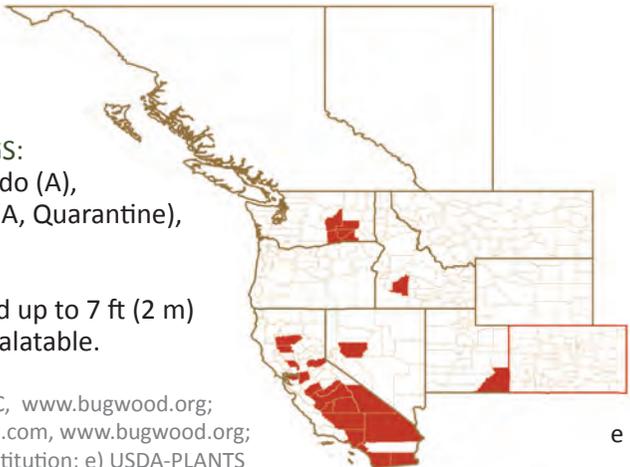


Look alike (Russian thistle) d

NOXIOUS WEED LISTINGS:

California (A), Colorado (A), Nevada (A), Oregon (A, Quarantine), Washington (B)

NOTES: Roots can extend up to 7 ft (2 m) into the ground; unpalatable.



e

Distribution

Credits: a & c) John Randall, TNC, www.bugwood.org;
 b) Richard Old, www.xidservices.com, www.bugwood.org;
 d) R.A. Howard, Smithsonian Institution; e) USDA-PLANTS database

Flowering rush

Butomus umbellatus

Family Butomaceae

SYNONYMS: Flowering-rush

ORIGIN: Eurasia

GROWTH TRAITS: Perennial, freshwater emergent growing 1 to 5 ft ($\frac{1}{2}$ to $1\frac{1}{2}$ m) tall. Stems are fleshy, rush like, and spirally twisted. Leaves are basal, sword shaped, erect, narrow, triangular in cross section, and grow up to 40 in (1 m) long. Flowers occur on umbels (all flower stalks arise from the same point) in clusters of 20 to 50, each with 3 pink petals and 3 pink sepals and up to 1 in ($2\frac{1}{2}$ cm) across. Flowering occurs from June to August. It has a rhizomatous root system and produces bulbils from which new plants sprout.



a

Plant



Flowers



Leaves



Roots

REPRODUCTION: Rhizomes, bulbils, seed

HABITAT: Found in muddy shore soil of marshes, lakes, streams, and ditches; can grow in water up to 6.5 ft (2 m) deep

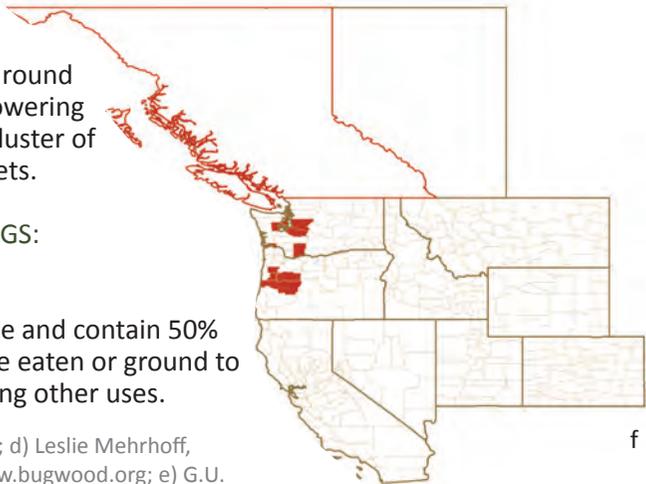
LOOK ALIKES: This species is easily distinguished from other marsh emergents by its large cluster of showy pink flowers. Bur-reed species (e) also have tall fleshy stems and leaves that are triangular in cross section. Bur-reed leaves are alternate and flowers are spiny clusters. Hardstem bulrush may sometimes resemble flowering rush but it does not have emergent and triangular leaves, has dark green and round stems, and has a flowering structure that is a cluster of hanging brown florets.



Look alike (bur-reed species)

NOXIOUS WEED LISTINGS:
Washington (A)

NOTES: Roots are edible and contain 50% starch, which can be eaten or ground to thicken soups, among other uses.



f

Distribution

Credits: a - c) Christian Fischer; d) Leslie Mehrhoff, University of Connecticut, www.bugwood.org; e) G.U. Tolkiehn; f) USDA-PLANTS database

Iberian & Red starthistle

Centaurea iberica & *C. calcitrapa*

Family Asteraceae

SYNONYMS for Iberian starthistle (IS): Iberian knapweed



Plant (Iberian) a



Flower head (Iberian) b



Rosette leaves (Iberian) c

SYNONYMS for Red starthistle (RS): Red star-thistle, purple starthistle



Plant (Red) d



Flower head and leaves (Red) e

ORIGIN: (Both species) Southern Europe and the Middle East

GROWTH TRAITS: Both species are herbaceous biennial to perennial plants growing 2 to 4 ft (0.6 to 1.2 m) tall from a stout taproot. Plants are rosettes with spiny centers the first year and flowering the second year. Stems and leaves are covered with fine hairs; lower and basal leaves are divided or deeply lobed while upper leaves are not. Flowering occurs from July to October, when numerous $\frac{3}{4}$ to 1 in (2 to 2½ cm) lavender to purple blooms develop at the ends of stems. Floral bracts are tipped with 1-in (2½ cm) long, straw-colored spines. The species can be differentiated by their seeds. **Iberian starthistle** produces plumed seeds while seeds of **red starthistle** are plumeless.

REPRODUCTION: Seed only; seed characteristics help differentiate these species from each other

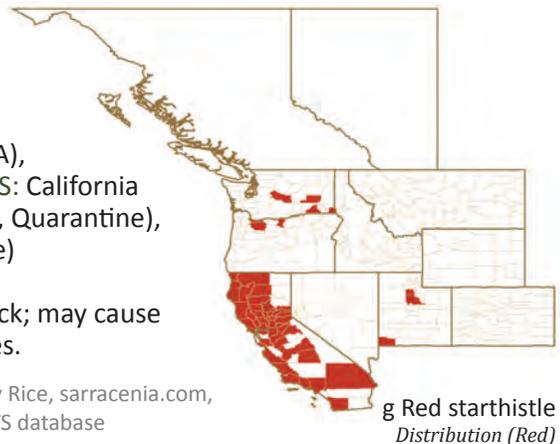
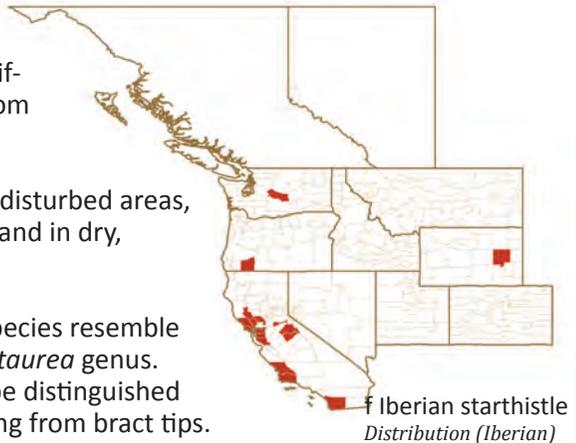
HABITAT: Found in dry and/or disturbed areas, especially along roadways and in dry, grazed rangeland

LOOK ALIKES: Both of these species resemble other members of the *Centaurea* genus. However, starthistles can be distinguished by the long spines extending from bract tips. Yellow starthistle differs in its yellow flower color and winged stems.

NOXIOUS WEED LISTINGS:

IS: California (A), Nevada (A), Oregon (A, Quarantine); RS: California (B), Nevada (A), Oregon (A, Quarantine), Washington (A, Quarantine)

NOTES: Unpalatable to livestock; may cause “chewing disease” in horses.



Credits: a - c) © CDFA 2001; d - e) Barry Rice, sarracenia.com, www.bugwood.org; f & g) USDA-PLANTS database

Ornamental jewelweed

Impatiens glandulifera

Family Balsaminaceae

SYNONYMS: Policeman's helmet, Himalayan balsam

ORIGIN: Asia

GROWTH TRAITS: Herbaceous annual that is succulent, smooth stemmed, and hairless. Plants can reach heights of 10 ft (3 m). Stems are hollow, easily broken, and have a purple tinge. Leaves are oblong, up to 6 in (15 cm) long, have serrated edges and glandular stalks at their bases, and are opposite or in whorls of 3. Flowers are solitary, white to pink, and have 5 petals (2 fused) and 5 fused stamens. Flowers appear from June to October. The overall flower shape resembles an old-fashioned English policeman's helmet.



a
Plant



Inflorescence



Flower



Leaves at nodes

REPRODUCTION: By seed; each plant produces up to 800 seeds that are ejected upon drying

HABITAT: Found in lowland, riparian areas such as moist forests, stream banks, and roadside thickets

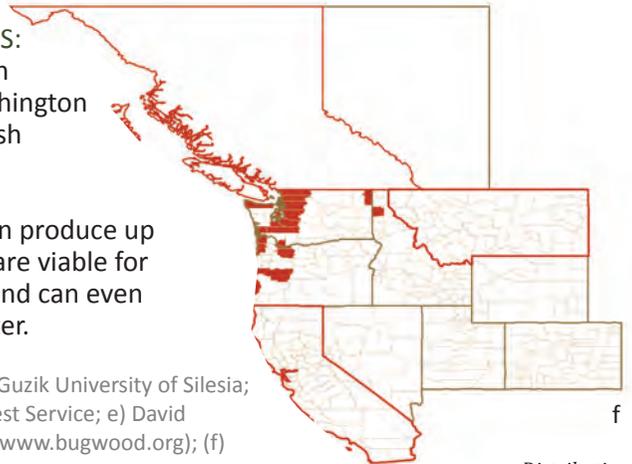
LOOK ALIKES: Many species within the genus resemble ornamental jewelweed. Most look alike relatives do not have the same combination of large, serrated leaves and large, pink flowers. Fireweed (e), an unrelated native species, could be mistaken for this plant with its similar leaf shape and deep pink flowers. However, petals of fireweed are not fused, and its leaves are alternate.



Look alike (Fireweed)

NOXIOUS WEED LISTINGS:
 Idaho (EDRR), Oregon (B, Quarantine), Washington (B, Quarantine), British Columbia

NOTES: A single plant can produce up to 800 seeds, which are viable for 18 months or more and can even germinate under water.



f

Distribution

Credits: a - c) Barbara Tokarska, Guzik University of Silesia; d) Michael Shephard, USDA Forest Service; e) David Powell, USDA Forest Service (all www.bugwood.org); (f) USDA-PLANTS database

Purpletop vervain

Verbena bonariensis

Family Verbenaceae

SYNONYMS: Tall verbena, vervain, pretty verbena

ORIGIN: South America

GROWTH TRAITS: Herbaceous annual or short-lived perennial clump-former with wiry, square, rough, and widely branched stems. Grows 1 to 4 ft (30 to 120 cm) tall, and is sometimes woody at its base in maturity. Dusty green, lance-shaped, and toothed leaves form the rosette, with a few opposite leaves on stems. Flowers are in rounded clusters 2 to 3 in (5 to 8 cm) across. Individual flowers are 5-petal lavender tubes, less than ¼ in (0.6 cm) across, and occur in spikes. Blooms appear from mid-summer through fall.



a

Plant



Side inflorescence



Inflorescence



Leaf and stem

REPRODUCTION: By seed only

HABITAT: Disturbed sites both moist and dry including roadways, canal banks, and fields

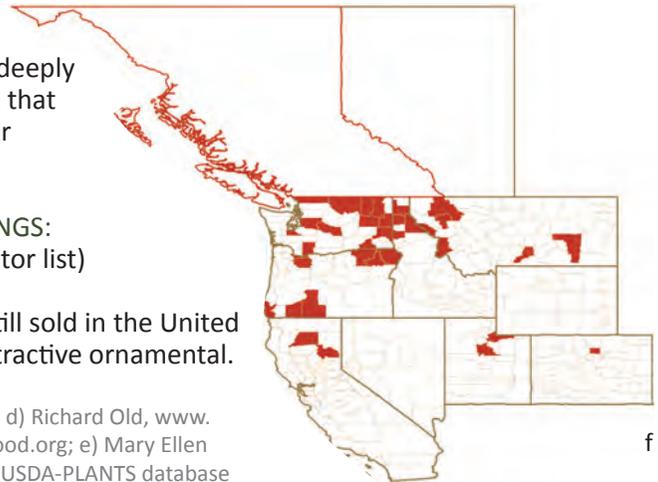
LOOK ALIKES: Several species of verbenas and mock vervain resemble purpletop vervain. However, these species have leaves that are divided while the leaves of purpletop vervain are entire and toothed. Those plants that look most similar either do not occur in the Northwest, or are exotic themselves. The native bigbract verbenas (e) has very similar flowers; however, this species has leaves that are so deeply lobed (or toothed) that they almost appear divided.



Look alike (bigbract verbenas)

NOXIOUS WEED LISTINGS:
Washington (Monitor list)

NOTES: This plant is still sold in the United States as a very attractive ornamental.



f

Distribution

Credits: a) Frank Wouters; b - d) Richard Old, www.xidservices.com, www.bugwood.org; e) Mary Ellen Harte, www.bugwood.org; f) USDA-PLANTS database

Squarrose knapweed

Centaurea virgata

Family Asteraceae

SYNONYMS: No other common names for this species

ORIGIN: Mediterranean

GROWTH TRAITS: Herbaceous perennial that can grow 1½ to 3 ft (45 to 90 cm) tall with many branches. Leaves are gray green, alternate, and deeply dissected. Flowering occurs in early to mid-summer, when pink flowers develop in heads at the tips of the branches. Flowers fall readily from plant stems after blooming and adhere to fur and other surfaces. Flowers are more slender than on most other knapweeds and have recurved bract tips, with the terminal spine longer than the lateral spines on each bract.



Plant



b
Flower heads



c
Leaves

REPRODUCTION: By seed; this species is unique among knapweeds because the seed heads break off at the base and tumble across the landscape, dispersing seeds

HABITAT: Open disturbed sites such as rangelands, roadsides, and grasslands

LOOK ALIKES: Numerous *Centaurea* resemble this species (for example, diffuse knapweed), though most are themselves exotic and invasive. Several natives are similar to squarrose knapweed, asters in particular (d). These can be differentiated by their undivided leaves and smooth, non-toothed bracts. Asters also have two types of flowers in one seed head, somewhat resembling daisies or sunflowers.

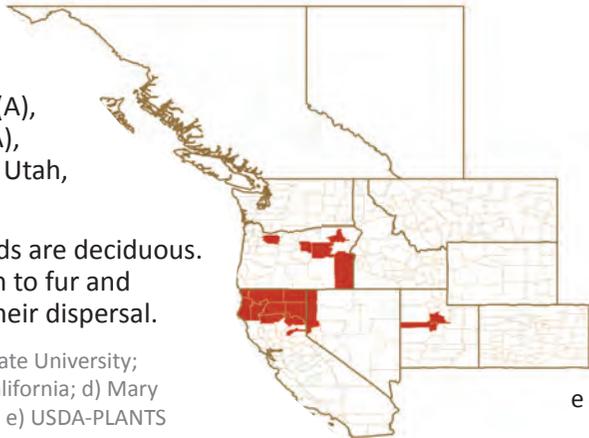


d
Look alike (*Aster*)

NOXIOUS WEED LISTINGS:

California (A), Colorado (A),
Idaho (EDRR), Nevada (A),
Oregon (A, Quarantine), Utah,
British Columbia

NOTES: Individual seed heads are deciduous.
They dislodge and attach to fur and
clothing, which aids in their dispersal.



e

Distribution

Credits: a & b) Steve Dewey, Utah State University; c) Joseph DiTomaso, University of California; d) Mary Ellen Harte, (all www.bugwood.org); e) USDA-PLANTS database

Blessed milkthistle

Silybum marianum

Family Asteraceae

SYNONYMS: Milk thistle

ORIGIN: Europe and the Mediterranean

GROWTH TRAITS: Herbaceous winter annual or biennial that grows 4 to 6 ft (1.2 to 1.8 m) tall, on average, with stout, rigid stems that are not spiny along their length. Alternate leaves are broad, edged with woody spines, and have white marbling along the veins. Flower heads are up to 2 in (5 cm) in diameter; solitary at the ends of stems; and have broad, leathery bracts tipped with stiff spines $\frac{3}{4}$ to 2 in (1.9 to 5 cm) long and fringed with smaller spines. Flowers are pink to purple and bloom May to August.



Plant

Large-headed thistles



b
Flower head



c
Leaves

REPRODUCTION: By seed only

HABITAT: Fertile, disturbed soils including overgrazed pastures, roadsides, and stockyards

LOOK ALIKES: More than 86 native thistle species occur in the United States (d) and could be confused with blessed milkthistle. One key identification feature is that native thistles never have large, leathery bracts as does blessed milkthistle. To differentiate this species from other exotic thistle species established in the Northwest, this plant does not have spines along its entire stem length; has large flower heads; and has sizable, leathery bracts.

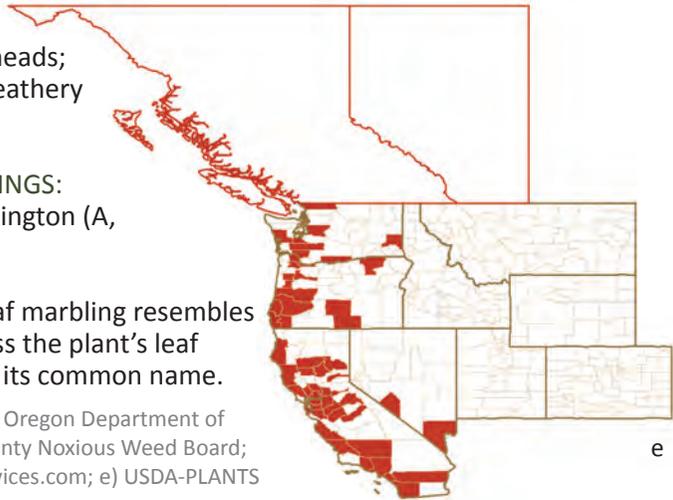


d
Look alike (Cirsium horridulum)

NOXIOUS WEED LISTINGS:
Oregon (B), Washington (A, Quarantine)

NOTES: The white leaf marbling resembles milk poured across the plant's leaf surfaces, yielding its common name.

Credits: a & b) Eric Coombs, Oregon Department of Agriculture; c) Thurston County Noxious Weed Board; d) Richard Old, www.xidservices.com; e) USDA-PLANTS database



e
Distribution

Bull cottonthistle

Onopordum tauricum

Family Asteraceae

SYNONYMS: Taurian thistle

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous biennial that grows 4 to 8 ft (1.2 to 2.4 m) tall, on average, with robust branches covered by spiny wings along their entire length. Alternate leaves are deeply lobed, bright green, have margins armed with sharp yellow spines, and can grow longer than 1 ft (30 cm). Flower heads grow to 2 in (5 cm) in diameter. They are usually solitary or form small groups of three at the ends of stems. Bracts are triangular at the base and maroon at the tips. Pink to purple flowers bloom July to October.



a

Plant

Large-headed thistles



Flower head



Leaf



Stem

REPRODUCTION: By seed only

HABITAT: Disturbed sites, roadsides, fields, and especially areas with fertile soil

LOOK ALIKES: More than 86 native thistle species occur in the United States (e) and could be confused with this species. A key identification feature is that native thistles never have spines along their entire stem as does bull cottonthistle. To differentiate this species from other exotic thistle species established in the United States, this plant has spines along its entire stem; large flower heads; and sharp, triangular bracts.



Look alike (*Cirsium horridulum*)

NOXIOUS WEED

LISTINGS:

California (A), Colorado (B), Oregon (A)

NOTES: In very dry years, mature plants have been found that were only a few inches tall, but with a fully developed, small seed head.



f

Distribution

Credits: a, c, d) Devon Pfeiffer; b) Todd Pfeiffer, Klamath County Weed Control; e) Richard Old, www.xidservices.com (all www.bugwood.org); f) USDA-PLANTS database

Italian plumeless thistle

Carduus pycnocephalus

Family Asteraceae

SYNONYMS: Italian thistle

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous winter annual or biennial growing to 4 ft (1.2 m) tall. Leaves are lance shaped, green, hairless above, hairy below, and have spines on lobe tips. Stem leaves grow alternately and lightly clasp the winged stem, which is spiny along its entire length. Flower heads are thimble sized (up to 1 in or 2½ cm long) in clusters of 2 to 5 at branch tips. Bracts are triangular and have tiny, firm, forward-pointing hairs along the midrib that are cobwebby at the base. Flowers are pink to purple and appear April to July.



a

Plant

Small-headed thistles



Flower heads



Stem

REPRODUCTION: By seed only

HABITAT: Disturbed and open areas such as pastures, rangelands, and rights-of-way

LOOK ALIKES: Over 86 native thistle species occur in the United States (d) and could be confused with this species. One key identification feature is that native thistles never have spines along their entire stem as does Italian plumeless thistle. To differentiate this species from other exotic thistles established in the United States, this plant has spines along its entire stem length; small flower heads; and tiny, forward-pointing hairs along sharp bract midribs.

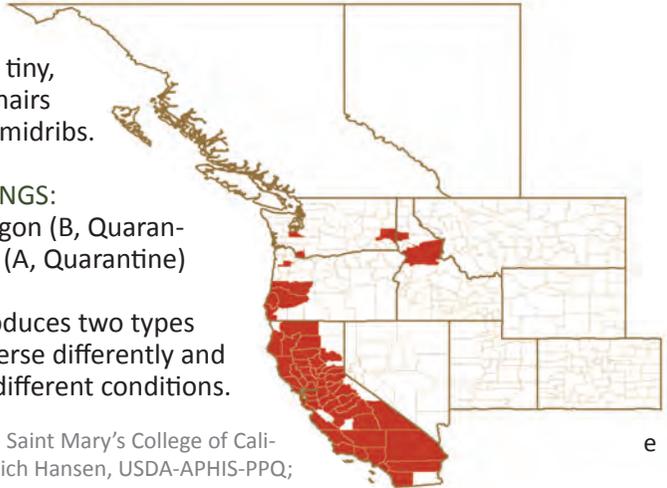


Look alike (Cobwebby thistle)

NOXIOUS WEED LISTINGS:

California (A), Oregon (B, Quarantine), Washington (A, Quarantine)

NOTES: This plant produces two types of seeds that disperse differently and germinate under different conditions.



e

Distribution

Credits: a & c) Photo © 1995 Saint Mary's College of California; b) Carol Witham; d) Rich Hansen, USDA-APHIS-PPQ; e) USDA-PLANTS database

Marsh thistle

Cirsium palustre

Family Asteraceae

SYNONYMS: European marsh thistle

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous biennial or short-lived perennial that grows to 4 ft (1.2 m). Leaves are alternate, deeply lobed, toothed, and have a strong midvein. Undersides are hairy, upper surfaces only have scattered hairs, and all margins have prominent spines. Stems are slender and have spiny wings along their entire length. Flower heads are small, ½ in (1.2 cm) in diameter, and appear in clusters of 3 to 12 at the ends of stems with purplish bracts that are not very spiny. Flowers are purple and bloom June to July.



Plant

Small-headed thistles



b
Flower head



c
Stem

REPRODUCTION: By seed only

HABITAT: Moist, acidic soils along roadsides and ditches and in wetlands, forests, and fields

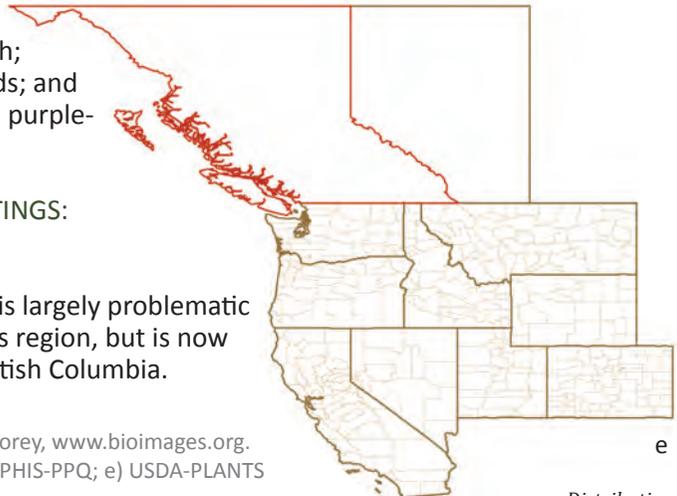
LOOK ALIKES: More than 86 native thistle species occur in the United States (d) and could be confused with marsh thistle. One key identification feature is that native thistles never have spines along their entire stem as does marsh thistle. To differentiate this species from other exotic thistle species established in the United States, this plant has spines along its entire stem length; small flower heads; and non-sharp, short, purple-colored bracts.



d
Look alike (Cobwebby thistle)

NOXIOUS WEED LISTINGS:
British Columbia

NOTES: This species is largely problematic in the Great Lakes region, but is now established in British Columbia.



e

Distribution

Credits: a - c) © Malcolm Storey, www.bioimages.org.uk; d) Rich Hansen, USDA-APHIS-PPQ; e) USDA-PLANTS database

Winged plumeless thistle

Carduus tenuiflorus

Family Asteraceae

SYNONYMS: Slenderflower thistle

ORIGIN: Europe and the Mediterranean

GROWTH TRAITS: Herbaceous winter annual or biennial growing 3 to 4 ft (0.9 to 1.2 m) tall with stems that are winged and spiny along their entire length. The alternate leaves are lance shaped and gray green with light-colored veins and spiny margins. They are hairless and spiny above, hairy below. Flower heads are less than 1 in (2½ cm) long, growing in clusters of 5 to 20 at the ends of stems. Bracts are triangular, tipped with spines, and not hairy. Flowers vary from pink to purple and bloom April to June.



Plants

Small-headed thistles



b
Flower heads



c
Leaves and stem

REPRODUCTION: By seed only

HABITAT: Disturbed and open, dry areas such as pastures, rangelands, and rights-of-way

LOOK ALIKES: Over 86 native thistle species occur in the United States (d) and could be confused with this species. One key identification feature is that native thistles never have spines along their entire stem as does winged plumeless thistle. To differentiate this species from other exotic thistle species established in the United States, this plant has spines along its entire stem length, small flower heads, and triangular bracts without hairs.

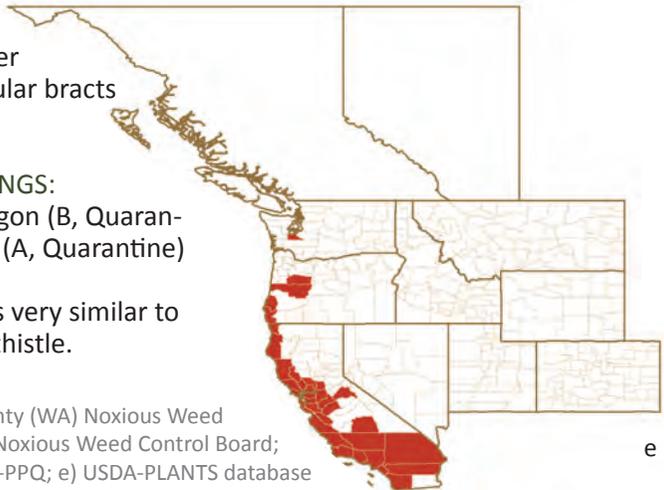


d
Look alike (Cobwebby thistle)

NOXIOUS WEED LISTINGS:

California (C), Oregon (B, Quarantine), Washington (A, Quarantine)

NOTES: This species is very similar to Italian plumeless thistle.



e

Distribution

Credits: a & c) Thurston County (WA) Noxious Weed Board; b) Washington State Noxious Weed Control Board; d) Rich Hansen, USDA-APHIS-PPQ; e) USDA-PLANTS database

Ram's horn

Proboscidea louisianica

Family Pedaliaceae

SYNONYMS: Unicorn plant, devil's claws

ORIGIN: Southern United States

GROWTH TRAITS: Herbaceous upright annual that branches near the base and rarely grows taller than 3 ft (0.9 m). Leaves are basally opposite, alternate at the top, broadly heart shaped, and up to 6 in (15 cm) wide with smooth leaf margins. Leaf stalks are stout. Five petals are united into a drooping, bell-shaped flower up to 3 in (7.5 cm) long. Pale lavender flowers with a yellow streak bloom in summer. Fruit is an okra-like, hooked pod extending 4 to 6 in (10 to 15 cm) and splitting when dry, forming two hooks.



a
Plant



b
Flower



c
Fruit



d
Mature fruit

REPRODUCTION: By seed only

HABITAT: Rich soil of woods, slopes, and moist meadows, both disturbed and undisturbed

LOOK ALIKES: Four other *Proboscidea* occur in the United States (all native). The species most likely mistaken for Ram's horn is doubleclaw (d). This species has flowers that vary from pale pink to maroon with a yellow stripe emerging from the throat. Doubleclaw rarely grows to 2 ft (60 cm) tall, has leaves that are somewhat "stickier," and fruits that grow with more tight curves.



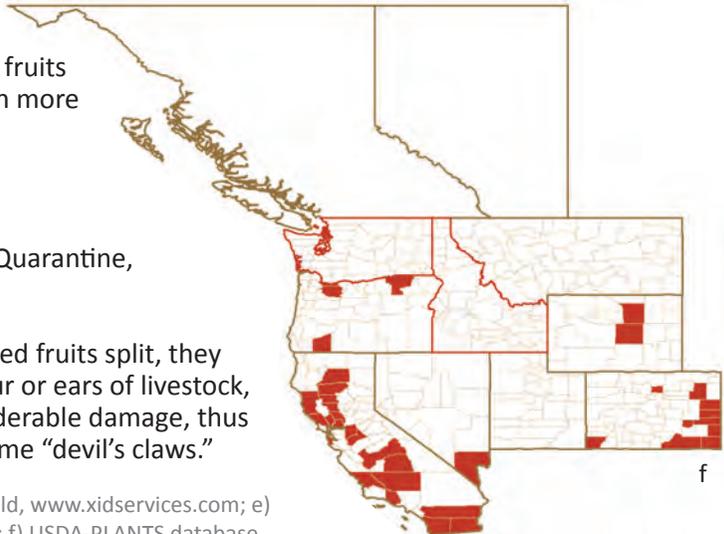
e
Look alike (doubleclaw)

NOXIOUS WEED

LISTINGS:

Washington (Quarantine, Monitor list)

NOTES: When dried fruits split, they catch in the fur or ears of livestock, causing considerable damage, thus the plant's name "devil's claws."



f

Distribution

Credits: a - d) Richard Old, www.xidservices.com; e) Clarence A. Rechenthin; f) USDA-PLANTS database

Shining geranium

Geranium lucidum

Family Geraniaceae

SYNONYMS: Shining crane's-bill

ORIGIN: Europe

GROWTH TRAITS: Herbaceous erect winter annual or biennial growing 2 to 18 in (5 to 45 cm) tall. The round and shiny alternate leaves have long stalks, 5 to 7 lobes that are each shallowly divided, and few scattered hairs. Flowers are in clumps of 2 on hairy flower stalks, bloom in late spring, and have 5 pink petals each less than 0.4 in (1 cm) long and 10 yellow stamens. Sepals are fused, hairless, and strongly keeled, appearing like ridges with bristled tips. All green parts are tinged red with age.



a

Plant



b
Flower



c
Fruit



d
Leaf

REPRODUCTION: By seed only

HABITAT: Found in moist, disturbed areas such as roadsides and ditches at low elevations; also in dense patches in shady woodlands

LOOK ALIKES: Resembles many species in the Geraniaceae with its pinkish purple flowers and long crane's bill fruit. The strongly keeled sepals help differentiate shining geranium. Dovefoot geranium (exotic, e) has fuzzy sepals and similarly shaped but hairier leaves with prominent veins in both leaves and flowers. Other related Geraniaceae have pointier leaves or are so deeply lobed that they appear divided, as well as larger, veined flowers.

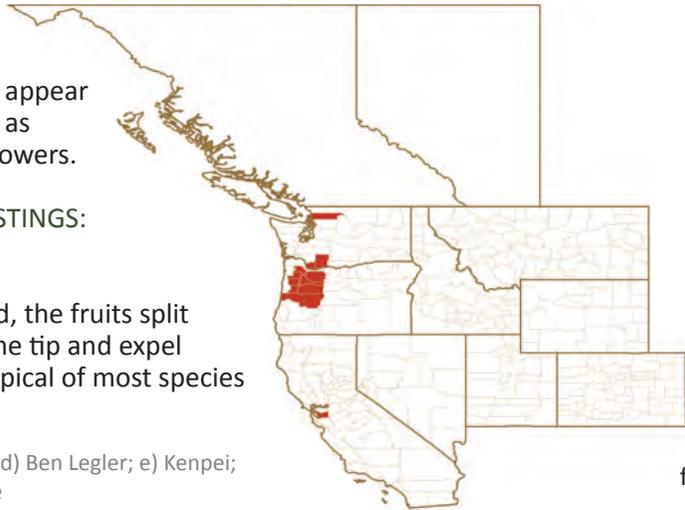


e
Look alike (dovefoot geranium)

NOXIOUS WEED LISTINGS:
Washington (A)

NOTES: When dried, the fruits split explosively at the tip and expel seeds. This is typical of most species in this family.

Credits: a) Franz Xaver; b-d) Ben Legler; e) Kenpei;
f) USDA-PLANTS database



f

Distribution

Blooddrops

Adonis annua

Family Ranunculaceae

SYNONYMS: Pheasant's-eye

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous annual that grows up to 20 in (50 cm) tall and can have many branches. The leaves are alternate, finely divided, and bright green. Flowers are deep red with a dark basal spot, have numerous bluish black anthers and 5 to 10 petals, and are ½ to 1 in (1.2 to 2½ cm) across. There are rarely more than 30 flowers per plant, and the elongated oval seed head usually bears 30 seeds. Flowering occurs throughout summer, usually from June through August.



Plant



b
Flower



c
Flower and leaves

REPRODUCTION: By seed only

HABITAT: Found in moist to semi-desert disturbed environments such as roadsides and fields.

LOOK ALIKES: When young, this species resembles mayweeds, but it has much brighter green leaves. Flowers of blooddrops resemble many native *Anemone* species, especially Pacific anemone, whose leaves are not as finely divided and whose flowers have yellow stamens and light-colored centers.



d
Look alike (field poppy)

Blooddrops most closely resembles summer pheasant's eye, another exotic *Adonis* species, and field poppy (d). Leaves of poppy are not as finely divided, and its petals are larger and more numerous.

NOXIOUS WEED LISTINGS:
Washington (Monitor List)

NOTES: Introduced as an ornamental, this species can often be found adjacent to and escaped from gardens.



e
Distribution

Credits: a & c) Luigi Rignanese; b) Alberto Salguero; d) Jan Samanek, State Phytosanitary Administration, www.bugwood.org; e) USDA-PLANTS database

Austrian & Creeping yellowcress
Rorippa austriaca & *R. sylvestris*

Family Brassicaceae

SYNONYMS for Austrian yellowcress (AY): Austrian fieldcress



Plant (Austrian)



Flower (Austrian)



Fruits (Austrian)

SYNONYMS for Creeping yellowcress (CY): Creeping fieldcress, yellow fieldcress



Plant (Creeping)



Fruits (Creeping)



Leaves (Creeping)

ORIGIN: (Both species) Southern Europe and Western Asia

GROWTH TRAITS: Both are herbaceous perennials with rhizomes. Stems are 1 to 3 ft (0.3 to 0.9 m) tall. Leaves are alternate and deeply lobed, each lobe having rounded teeth. Flowers are arranged alternately at the stem tips. They are light yellow, less than $\frac{1}{8}$ in ($\frac{1}{8}$ cm) across, have 4 petals and 6 stamens, and bloom from June to August. **AY:** Stem leaves are 1 to 2 in ($2\frac{1}{2}$ to 5 cm) long, oblong, toothed along the margins, and hairless. Basal leaves are twice as long and deeply lobed, appearing dissected. Stems are slightly hairy. Fruits are small and spherical. **CY:** All leaves are much more finely divided than **AY**, growing up to 4 in (10 cm) long. Fruits are long (0.4 in or 1 cm), very thin, and somewhat constricted.

REPRODUCTION: Seed (sometimes sterile) and creeping rhizomes

HABITAT: Moist areas along roadsides, fields, and pastures

LOOK ALIKES: Many Brassicaceae in the West have similar flowers and leaves. The exact combination of leaf shape, short stature, moist habitat, and small flower size differentiate these species from others. The rounded fruit of Austrian Y differentiates it from the long, slender-fruited Creeping Y.

NOXIOUS WEED LISTINGS:
AY: Nevada (A), Washington (B), Wyoming (weed alert)
CY: California (A), Oregon (B), Quarantine)

NOTES: A hybrid of these species is more invasive in Europe than either species alone.



g Austrian yellowcress
Distribution (Austrian)



h Creeping yellowcress
Distribution (Creeping)

Credits: a - c) Elizabeth Bella, USDA, www.bugwood.org; d) Fornax; e) Robert Mohlenbrock, USDA SCS, USDA-PLANTS database; f) SB Johnny; g & h) USDA-PLANTS database

Asian mustard

Brassica tournefortii

Family Brassicaceae

SYNONYMS: Sahara mustard, African mustard, wild turnip

ORIGIN: Africa, Asia, Europe

GROWTH TRAITS: Herbaceous annual with stems 4 to 40 in (10 to 100 cm) tall. Leaves are 3 to 20 in (8 to 50 cm) long and mostly cluster near the base of the plant. Leaves are deeply lobed but not divided. Flowers are dull yellow and inconspicuous, consist of 4 petals and 6 stamens, and are 0.6 in (1½ cm) across. Flowering occurs in late spring with flower stalks spreading away from the stem. Fruits are 1½ to 2½ in (3 to 6 cm) long, have an obvious beak at the tip, and spread outward from stems at 45-degree angles.



a
Plant



Infestation



Flower



Fruits

REPRODUCTION: By seed only; during rains, a sticky gel forms over the seed case that permits seeds to disperse long distances by adhering to animals and vehicles

HABITAT: Found in wind-blown sand deposits and in disturbed sites such as roadsides and abandoned fields, especially at low elevations

LOOK ALIKES: Many Brassicaceae species in the West have similar flowers and fruits. The undivided leaves of this plant differentiate it. Most look alike have leaves that are either more deeply lobed, at times appearing divided (e), or leaves that clasp the stem. Tumble mustard (e) looks similar but has leaves that are more deeply divided as well as leaves up the stems.



Look alike (tumble mustard)

NOXIOUS WEED LISTINGS:
Nevada (B)

NOTES: This species also spreads seeds via “tumbling” in the wind, as do many other Brassicaceae weeds.



f

Distribution

Credits: a & b) James M. André; c & d) Patrick Alexander, USDA-PLANTS database; e) Richard Old, www.xidservices.com, www.bugwood.org; f) USDA-PLANTS database

Elongated mustard

Brassica elongata

Family Brassicaceae

SYNONYMS: Long-stalked rape

ORIGIN: Eastern Europe

GROWTH TRAITS: Biennial to perennial herbaceous plant with erect stems up to 3 ft (1 m) tall. The basal leaves are lance shaped and weakly lobed to shallowly toothed. The stem leaves are much smaller than the basal leaves and do not clasp the stem. Flowers are yellow, consist of 4 petals and 6 stamens, are more than 0.4 in (1 cm) across, and appear from June through July. The fruits are 0.4 to 1.6 in (1 to 4 cm) long, with a stalk-like base and a seedless, narrow beak (pinched tip of the fruit).



Plant



Leaf and stem



Fruits



Flowers

REPRODUCTION: By seed only; in late summer and early fall, stems dry out and break at the base, spreading seeds as they blow with the wind

HABITAT: Found in disturbed soils under a variety of climatic conditions, including high salinity, extreme temperatures, and varied elevations

LOOK ALIKES: Many western Brassicaceae species have similar flowers and fruits. The lance-shaped and toothed leaves of this plant differentiate it. Most look alike have leaves that are either finely divided or very deeply lobed (e), or leaves that clasp the stem. Dyer's woad, a common Brassicaceae weed found in the West, has similar flowers, but many teardrop-shaped, hanging fruits.



Look alike (tumble mustard)

NOXIOUS WEED LISTINGS:

Not listed in any State or Province

NOTES: Cold temperatures in seed beds restrict the germination and subsequent range of this species.



Distribution

Credits: a - d) Rachel Winston, MIA Consulting; e) Richard Old, www.xidservices.com, www.bugwood.org; f) USDA-PLANTS database

Bighead knapweed

Centaurea macrocephala

Family Asteraceae

SYNONYMS: Yellow hardhead, yellow fluff

ORIGIN: Romania and Armenia

GROWTH TRAITS: Herbaceous perennial growing from 2 to 5 ft (60 to 150 cm) tall. Stems are upright, hairy, and unbranched, ending in a single flower head. Leaves are lance shaped with toothed edges, pointed tips, and rough surfaces. Basal or rosette leaves are stalked and can be 15 in (38 cm) long and 3 in (7½ cm) wide, getting progressively smaller upward. Flower heads are globe shaped and 1 to 3 in (2½ to 7½ cm) in diameter. Bracts have thin, papery, fringed margins. Flowers are yellow and bloom July to August.



Flower head



Plant



Bracts

REPRODUCTION: By seed only

HABITAT: Found in grassy meadows and disturbed fields, primarily in loam to silty loam soils

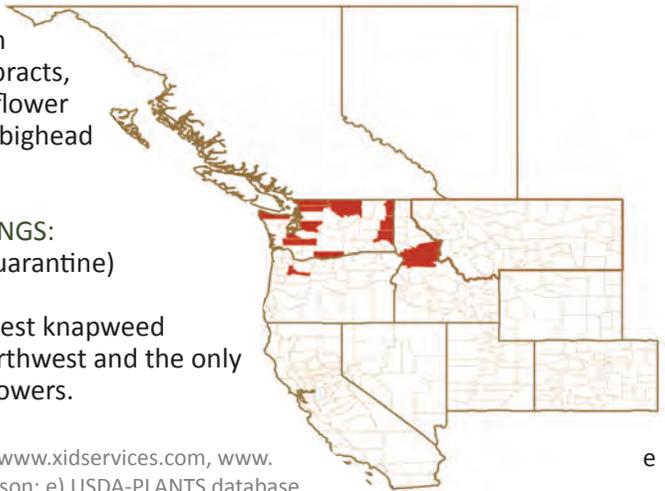
LOOK ALIKES: There are many species of knapweed in the West, but all are exotic. Bighead knapweed is unique with its tall height and yellow flowers. Many other Asteraceae resemble bighead knapweed flowers. These include sowthistles (d), dandelion, true thistles, hawkweeds, and hawksbeards. However, none of the look alike have the same combination of brown papery bracts, large height, and flower type exhibited by bighead knapweed.



Look alike (sowthistle)

NOXIOUS WEED LISTINGS:
Washington (A, Quarantine)

NOTES: This is the tallest knapweed growing in the Northwest and the only one with yellow flowers.



e

Distribution

Credits: a, b, d) Richard Old, www.xidservices.com, www.bugwood.org; c) Michael Wilson; e) USDA-PLANTS database

Celandine

Chelidonium majus

Family Papaveraceae

SYNONYMS: Tetterwort

ORIGIN: Europe and the Mediterranean

GROWTH TRAITS: Herbaceous biennial in a rosette the first year and reaching 1 to 3 ft (30 to 120 cm) tall the second year. Stems are stout, angular, and covered with scattered hairs. Leaves are 6 in (15 cm) long and deeply divided into 5 lobes with rounded teeth. Sap is bright yellow-orange. Flowers have 4 yellow petals, each 0.4 in (1 cm) long, 2 sepals, and numerous stamens. They bloom from May to July. Fruits are seedpods growing up to 2 in (5 cm) long. A double-flowered variety (a naturally occurring mutation) also exists.



a
Plant



b
Flower



c
Leaf



d
Sap

REPRODUCTION: By seed only

HABITAT: Found in woodlands, meadows, waste areas, and escaped gardens

LOOK ALIKES: Numerous species of buttercup (*Ranunculus*, e) resemble celandine with divided and lobed leaves, yellow flowers with numerous stamens, similar habitat, and a similar height. Buttercups are most easily distinguished by counting petals (which range from 5 to numerous but never just 4); in addition, the sap of buttercups is not yellow-orange. Columbine species (*Aquilegia*) also resemble celandine in leaf shape and flower color. However, columbines have long spurs that protrude behind the petals.



e
Look alike (*Ranunculus* spp.)

NOXIOUS WEED LISTINGS:
British Columbia

NOTES: The seeds possess an elaiosome that attracts ants to disperse the seeds (myrmecochory).



f

Distribution

Credits: a, c, e) Richard Old, www.xidservices.com; b) Alves Gaspar; d) Leslie Mehrhoff, U. of Connecticut, www.bugwood.org; f) USDA-PLANTS database

Coltsfoot

Tussilago farfara

Family Asteraceae

SYNONYMS: Coughwort

ORIGIN: Europe

GROWTH TRAITS: Herbaceous perennial. The basal leaves are heart shaped, slightly toothed, and up to 6 in (15.2 cm) wide, resembling the cross section of a colt's foot. Leaves are bright green above and white with dense, matted hairs beneath and purple veins. Dandelion-like flowers are yellow and emerge before the leaves in early spring. Flower stalks are woolly, leafless, numerous, and from 3 to 18 in (7½ to 45 cm) tall; each one bears a single flower at the top. The flowers open only in sunny weather.



Plant



Flower heads



Unopened flower head



Mature flower head

REPRODUCTION: By seeds and creeping rhizomes

HABITAT: Invades moist, open, disturbed areas such as ditches and fields

LOOK ALIKES: Two species may easily be confused for coltsfoot. American trailplant (e) has leaves that are similar in shape and color—bright green above and white beneath with dense, matted hairs. Flowers of American trailplant are small clusters of inconspicuous blooms scattered up a tall flowering stalk. Leaves are present during flowering. Wild ginger also has similarly shaped leaves, but they are green beneath, very odorous, and present at the time the maroonish, hairy flower appears.

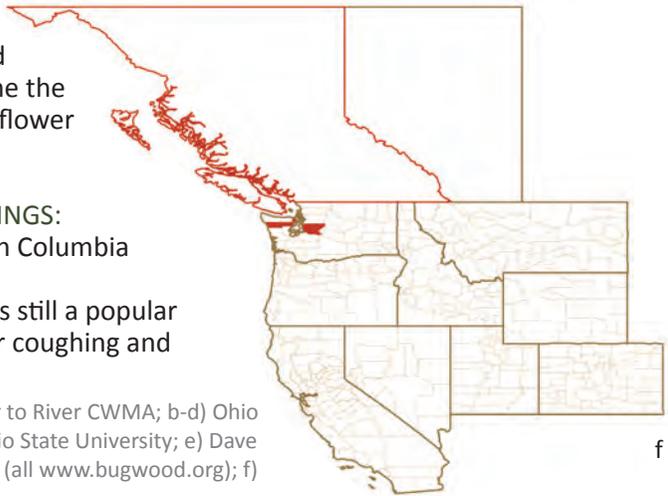


Look alike (American trailplant)

NOXIOUS WEED LISTINGS:
Oregon (A), British Columbia

NOTES: This species is still a popular herbal remedy for coughing and asthma.

Credits: a) Chris Evans, River to River CWMA; b-d) Ohio State Weed Lab Archive, Ohio State University; e) Dave Powell, USDA Forest Service (all www.bugwood.org); f) USDA-PLANTS database



Distribution

Creeping Jenny

Lysimachia nummularia

Family Primulaceae

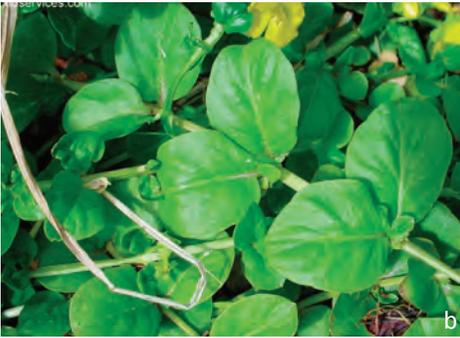
SYNONYMS: Moneywort, herb twopence, twopenny grass

ORIGIN: Europe

GROWTH TRAITS: Perennial, nonclimbing vine up to 3 ft (90 cm) long, branching at the base. Light green stems are hairless and ridged. Opposite leaves are 1 to 1½ in across, round to oval in shape, smooth along the margins, and hairless. The upper leaf surface is shiny with widely scattered glandular black dots. From leaf axils appear single yellow flowers 1 in (2.5 cm) across. Each flower has 5 yellow petals scattered with red glandular dots and 5 stamens. Blooms appear May through August, but uncommonly so.



Plant



Leaves



Flowers

REPRODUCTION: Rarely by seed; usually by creeping roots arising from nodes near the opposite leaves

HABITAT: Found in moist soils along ditches, in thickets, and along woodland borders

LOOK ALIKES: Several other species in the *Lysimachia* genus resemble creeping Jenny, though most are erect and have lance-shaped leaves. Those species that most resemble the creeping form and round leaf shape of creeping Jenny have more closely spaced leaves and are also exotic in the West. Creeping snowberry (d) grows in similar habitats and has round leaves on creeping vines; however, it has leathery, alternate leaves, and pinkish white drooping flowers.



Look alike (creeping snowberry)

NOXIOUS WEED LISTINGS:
British Columbia

NOTES: Leaves are bitter and not a preferred food for most herbivores.



e

Distribution

Credits: a - c) Richard Old, www.xidservices.com, www.bug-wood.org; d) Robert Mohlenbrock, USDA-PLANTS database; e) USDA-PLANTS database

Elecampane inula

Inula helenium

Family Asteraceae

SYNONYMS: Inula, elecampane, horse-heal, elfwort

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous perennial growing up to 6 ft (2 m) tall. During the first year, it is only a basal rosette. Rosette leaves are triangular or heart shaped, irregularly and shallowly toothed, and densely velvety beneath. Hairy stems bolt the second year, with leaves growing alternately and clasping the upper stem. Flowers are 2 in (5 cm) across and consist of bright yellow ray (outer) and disk (center) florets. Flowering occurs from July to September. Roots are large and mucilaginous.



a

Plant



Flower head



Leaf

REPRODUCTION: By seed only

HABITAT: Found in moist, wet, disturbed sites, including woods, forests, and moist roadsides

LOOK ALIKES: Common sunflower (d) resembles *Elecampane inula* because of its hairy stems, hairy and toothed leaves that are large and can grow alternately up the stem, and bright yellow flowers. The flowers of common sunflower consist of brown disk florets (center), rather than yellow, and the outer ray florets of sunflower are much broader than those of *Elecampane inula*. The leaves of common sunflower are also much stiffer.



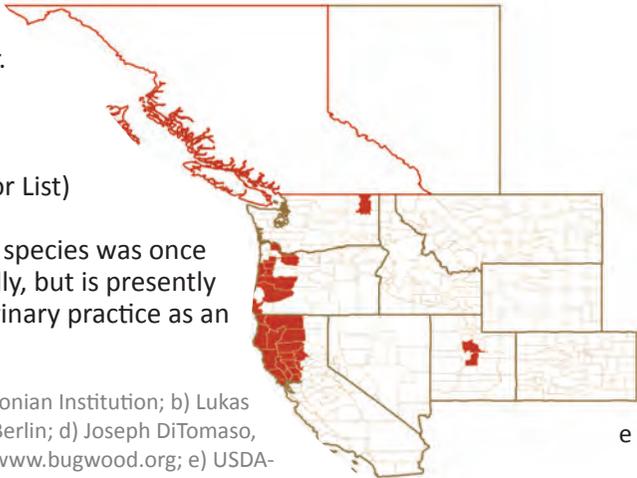
Look alike (common sunflower)

NOXIOUS WEED

LISTINGS:

Washington (Monitor List)

NOTES: The root of this species was once important medicinally, but is presently mostly used in veterinary practice as an antiseptic.



e

Distribution

Credits: a) R.A. Howard, Smithsonian Institution; b) Lukas Riebling; c) Botanical Gardens Berlin; d) Joseph DiTomaso, University of California, Davis, www.bugwood.org; e) USDA-PLANTS database

Field burweed

Soliva sessilis

Family Asteraceae

SYNONYMS: Carpet burweed

ORIGIN: South America

GROWTH TRAITS: Herbaceous winter annual growing to 2 in (5 cm) tall, with a spread of 6 in (15 cm) in diameter. Each plant has 1 to 10 light- to dark-colored stems growing from the base. These can be hairy to sparsely hairy, often with purple spots. The leaves are very divided. Small, greenish translucent flowers are inconspicuous and occur from February to July. The flat, hard seeds are small, lightweight, and tipped with serrated spines, essentially forming a bur that makes dispersal by human activities common.



Infestation



b
Plant



c
Mature fruit

REPRODUCTION: By seed only

HABITAT: Found in managed perennial grass areas usually associated with heavy foot traffic, public swim areas, and boat launches of public lakes. This plant is also found in watered lawns, golf courses, and hard-packed soils near paths and roadsides.



d
Look alike (curvseed butterwort)

LOOK ALIKES: This species resembles a nonnative, weedy species in the Ranunculaceae. Curvseed butterwort (d) has similar, finely divided leaves and also produces a bur. Though it occurs in similar habitats as field burweed, curvseed butterwort has yellow, conspicuous flowers. Asteraceae resembling field burweed have conspicuous flowers that look more like typical Asteraceae blooms.

NOXIOUS WEED LISTINGS:

Washington (A, Quarantine), British Columbia

NOTES: Human activities are the probable cause of seed dispersal and establishment in areas of maintained recreational use worldwide.



e

Distribution

Credits: a & b) Richard Old, www.xidservices.com; c) Steve Matson; d) Curtis Clark; e) USDA-PLANTS database

Hawkweed oxtongue

Picris hieracioides

Family Asteraceae

SYNONYMS: Hawkweed ox-tongue

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous biennial or short-lived perennial growing 1 to 3 ft (30 to 90 cm) tall. Stems are erect, grooved, branched, and stiffly hairy. Leaves are lance shaped, toothed, and are covered with short, forked hairs. Basal leaves have stalks while stem leaves grow alternately without stalks. Flowers consist of bright yellow all-ray florets appearing fringed at their tips. Bracts are hairy and overlapping. Flowering occurs from July through October.



Plant



Flower head



Leaf and stem

REPRODUCTION: By seed only; this plant is apomictic (self fertilizes)

HABITAT: Found in well-drained, disturbed soil in full sun

LOOK ALIKES: Many Asteraceae species have flowers that resemble hawkweed oxtongue. These include sowthistles (d), dandelion, hawkweeds, and hawksbeards. Sowthistles have shiny, clasping, and thistle-like leaves. Dandelions have hollow, leafless stems bearing one flower each. Hawkweed leaves are generally mostly basal. Hawksbeards are difficult to distinguish but often have stems less grooved than hawkweed oxtongue.



Look alike (sowthistle)

NOXIOUS WEED

LISTINGS:

Oregon (A, Quarantine),
Washington (B, Quarantine)

NOTES: The leaves of this species are considered edible and used by some to reduce fevers, though they are very bitter in taste.



e

Distribution

Credits: a - c) Luigi Rignanese; d) Richard Old, www.xidser-vices.com, www.bugwood.org; e) USDA-PLANTS database

Hawkweeds

Hieracium spp.

Family Asteraceae

Mouseear hawkweed (*H. pilosella*)



Plant (mouseear)



Flower head (mouseear)



Leaves (mouseear)

New England hawkweed (*H. sabaudum*)



Plant (New England)



Flower head (New England)

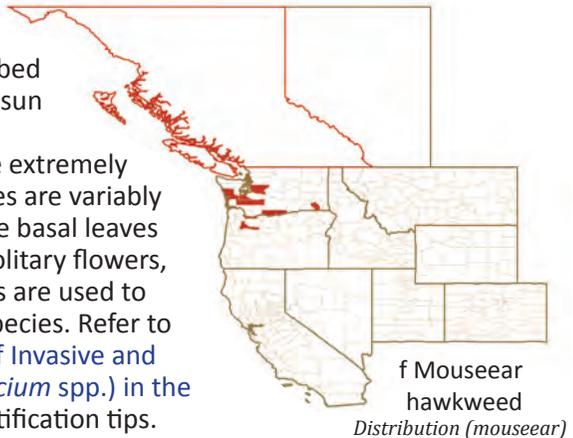
ORIGIN: Most invasive hawkweed species are from Eurasia

GROWTH TRAITS: There are numerous species of hawkweed that are both native to and invasive in North America. Five species are invasive but not yet widespread in portions of the Northwest. These include mouseear hawkweed (*H. pilosella*), New England hawkweed (*H. sabaudum*), polar hawkweed (*H. atratum*), queen-devil hawkweed (*H. glomeratum*), and tall hawkweed (*H. piloselloides*). The distributions of polar and queen-devil hawkweed are unknown, while New England hawkweed occurs somewhere in British Columbia. These species are all herbaceous perennials with hairy stems growing up to 40 in (100 cm) tall. All have yellow flowers consisting of ray florets only and hairy leaves.

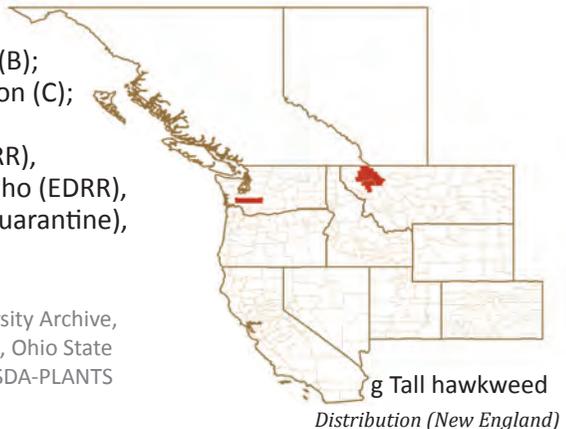
REPRODUCTION: All spread by seed produced apomictically (self fertilized); mouseear hawkweed also spreads via mat-forming stolons.

HABITAT: All can be found in somewhat moist, disturbed areas, with at least partial sun

LOOK ALIKES: Hawkweeds are extremely difficult to tell apart. Leaves are variably shaped, some species have basal leaves only, some species have solitary flowers, and so on. Often hair traits are used to differentiate hawkweed species. Refer to the [Key to Identification of Invasive and Native Hawkweeds \(*Hieracium* spp.\) in the Pacific Northwest](#) for identification tips.



NOXIOUS WEED LISTINGS:
 Mouseear H.: Washington (B);
 New England H.: Washington (C);
 Polar H.: Washington (B);
 Queen-devil H.: Idaho (EDRR),
 Washington (B); Tall H.: Idaho (EDRR),
 Montana (2), Oregon (A, Quarantine),
 Washington (C)



Credits: a & b) Washington State University Archive, www.bugwood.org; c) Catherine Herms, Ohio State University; d & e) Opiola Jerzy; f & g) USDA-PLANTS database

Maltese starthistle

Centaurea melitensis

Family Asteraceae

SYNONYMS: Malta starthistle, Napa thistle, tocalote

ORIGIN: Africa and Europe

GROWTH TRAITS: Herbaceous winter annual that reaches 3.2 ft (1 m) tall. Stems are stiff and usually openly branched from near or above the base. Stem leaves are alternate and mostly linear or narrowly oblong. Margins are smooth and lightly toothed or wavy, and leaf bases extend down the stems, giving stems a winged appearance. Rosette leaves are typically withered by flowering time (July to September). Flower heads are globe shaped, up to 1 in (2½ cm) in diameter, and have long (1 in or 2½ cm), purplish, spiny bracts.



a
Plant



b
Flower head



c
Leaf

REPRODUCTION: By seed only

HABITAT: Found in open disturbed sites including grasslands, rangeland, open woodland, pastures, cultivated fields, and roadsides

LOOK ALIKES: Most closely resembles yellow starthistle (d), another invasive weed in North America. Yellow starthistle also has yellow flower heads with very long and spiny bracts. It is also a winter annual and can be found in similar habitat. Yellow starthistle differs in its more gray-green appearance of foliage and much narrower leaves.



d
Look alike (yellow starthistle)

NOXIOUS WEED

LISTINGS:

Nevada (A)

NOTES: Seeds easily adhere to livestock fur and animal clothing, but are most easily transported in contaminated livestock feed.



e

Distribution

Credits: a) Steven Thorsted; b) James M. André; c) Jennifer Naegele, OC Parks; d) Peggy Greb, USDA-ARS, www.bugwood.org; e) USDA-PLANTS database

Spanish broom

Spartium junceum

Family Fabaceae

SYNONYMS: Weaver's broom

ORIGIN: Mediterranean

GROWTH TRAITS: Shrub 5 to 15 ft (1.5 to 4.5 m) tall. Slender stems are erect with few branches, cylindrical, and rush like and green when young, maturing into woody branches with bark. Leaves are $\frac{1}{2}$ to 1 in (1.2 to 2.5 cm) long, oval, and smooth margined. Leaves remain on the plant for 4 months or less. Several yellow, pea-like flowers occur in long clusters on current-year shoots. They are up to 1 in ($2\frac{1}{2}$ cm) long and bloom throughout summer. Fruit is a pod 2 to 4 in (5 to 10 cm) long, darkening with age.



Plant



b
Flower



c
Stems



d
Flowers

REPRODUCTION: By seed only

HABITAT: Found in disturbed areas, especially along roadsides

LOOK ALIKES: French broom and Scotch broom shrubs (both invasive in the Northwest) most closely resemble Spanish broom. Both species are in the pea family and have characteristic flowers (both yellow) and pod fruit. Both have shorter fruits: French broom 0.4 to 1.2 in (1 to 3 cm), Scotch broom 0.8 to 2 in (2 to 5 cm). Scotch broom (e) leaves are three parted and fall off the plant early; its stems (star shaped in cross section) can also photosynthesize.



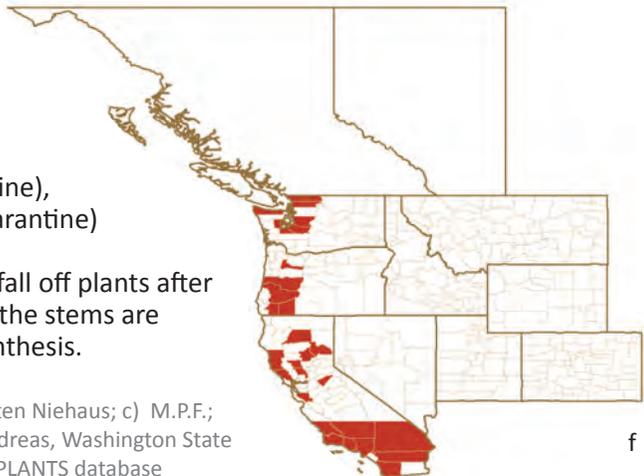
e
Look alike (Scotch Broom)

NOXIOUS WEED

LISTINGS:

Oregon (B, Quarantine),
Washington (A, Quarantine)

NOTES: Though leaves fall off plants after only a few months, the stems are capable of photosynthesis.



f

Distribution

Credits: a) David Gaya; b) Carsten Niehaus; c) M.P.F.; d) Kurt Stueber; e) Jennifer Andreas, Washington State University Extension; f) USDA-PLANTS database

Bishop's goutweed

Aegopodium podagraria

Family Apiaceae

SYNONYMS: Snow-on-the-mountain, Bishop's weed, goutweed

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous perennial with multiple flowering stems growing 8 to 28 in (20 to 70 cm) tall. Leaves are twice divided into 3 parts (9 leaflets total), are toothed along the margins, and often have white-colored edges. White flowers are on a compound umbel (all flower stalks arising from the same point, but twice). Each flower has 5 petals and blooms June through August. Fruits are elliptic, flattened in one direction, and appear throughout late summer and early fall, browning with maturity.



a
Plant



Inflorescences



Leaves

REPRODUCTION: By seed and creeping rhizomes

HABITAT: Found in moist disturbed areas including ditch banks; fence lines; roadways; and wet, marshy regions

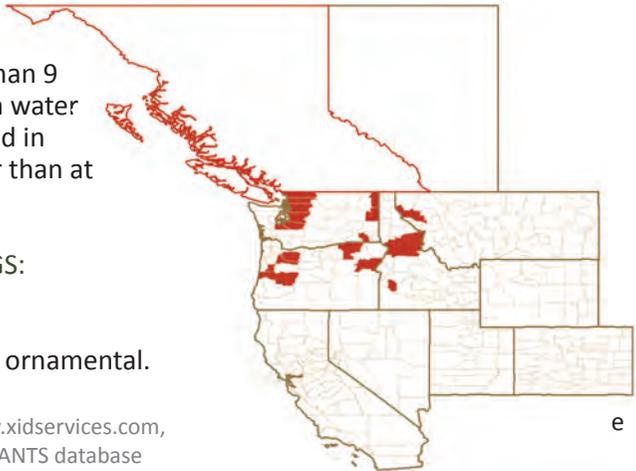
LOOK ALIKES: Numerous species in this family are present in North America and resemble Bishop's goutweed with their white umbel flowers and similar habitat. When white margins are apparent on the leaves of this species, identification is clear. When leaves are solid green, western water hemlock and many species of *Angelica* also could be confused for Bishop's goutweed. Both species have more than 9 leaflets, and western water hemlock veins (d) end in tooth notches rather than at tooth tips.



Look alike (water hemlock)

NOXIOUS WEED LISTINGS:
British Columbia

NOTES: Often sold as an ornamental.



Distribution

Credits: a - d) Richard Old, www.xidservices.com, www.bugwood.org; e) USDA-PLANTS database

Carolina horsenettle

Solanum carolinense

Family Solanaceae

SYNONYMS: Bull nettle, apple of Sodom

ORIGIN: Southeastern United States

GROWTH TRAITS: Herbaceous perennial with spiny stems growing up to 3.3 ft (1 m) tall. Leaves are alternate, triangular to oval with deep, irregular lobes. Both surfaces are covered with fine hairs and can have spines protruding from the midvein. Flowers have 5 whitish petals with yellow centers. Fruits are dark green berries, resembling small tomatoes, with light green stripes. They turn yellow and wrinkled as they mature. Flowering occurs throughout the summer from April to October.



a

Plant



Fruits and stem **b**



Leaf **c**

REPRODUCTION: By seed and creeping rhizomes

HABITAT: Found in disturbed areas such as pastures, roadsides, and railroad margins with sandy or loam soils

LOOK ALIKES: Resembles sticky nightshade (native to South America) and buffalobur (d, native to the Southwestern United States). Both occur in similar habitat and in similar ranges. Both also have leaves more deeply lobed than Carolina horsenettle. Sticky nightshade has red berries, while buffalobur has yellow flowers. Other related nightshades have similar flowers and leaf shape but do not have the spiny stems and leaves of Carolina horsenettle.



Look alike (*buffalobur*) **d**

NOXIOUS WEED LISTINGS:
California (B), Nevada (B)

NOTES: All parts are poisonous; the spines can break off painfully after puncturing human skin.



e

Distribution

Credits: a & b) Ted Bodner, Southern Weed Science Society; c) Bekah Williams, University of Georgia; d) Charles Bryson, USDA-ARS (all www.bugwood.org); e) USDA-PLANTS database

Cutleaf teasel

Dipsacus laciniatus

Family Dipsacaceae

SYNONYMS: Cut-leaved teasel

ORIGIN: Europe

GROWTH TRAITS: Herbaceous perennial that grows as a basal rosette its first year. From its second year on, it sends up flowering stalks that can reach 6 to 7 ft (2 m) in height. Opposite leaves are joined at the base and form cups that surround the prickly stem. Leaves are deeply lobed, appearing fringed. Tiny, white flowers subtended by stiff bracts densely cover oval flower heads and are present from June to September. Larger, spiny bracts subtend the flower heads.



a
Plant



Inflorescences



Leaves



Stem

REPRODUCTION: By seed only

HABITAT: Found in open, sunny habitats; prefers roadsides and other disturbed areas, although it can sometimes be found in high-quality areas such as prairies, seeps, and meadows

LOOK ALIKES: The opposite and jagged leaves, prickly stems, and stiff flower heads subtended by long bracts help differentiate this species from nonrelated look alikes. Another species of teasel, Fuller's teasel, is widespread but introduced in North America. Fuller's teasel (e) is very similar to cutleaf teasel, but has purple-colored flowers and triangular leaves without deep teeth or lobes.



Look alike (Fuller's teasel)

NOXIOUS WEED LISTINGS:
Colorado (B), Oregon (B)

NOTES: The flower heads of many teasel species were once used to card wool.



f

Distribution

Credits: a - c) Chris Evans, River to River CWMA; d) Todd Pfeiffer, Klamath Country Weed Control; e) Ohio State Weed Lab Archive, Ohio State University, (all www.bugwood.org); f) USDA-PLANTS database

Garlic mustard

Alliaria petiolata

Family Brassicaceae

SYNONYMS: Hedge garlic, sauce-alone, jack-by-the-hedge

ORIGIN: Europe

GROWTH TRAITS: Herbaceous biennial that forms only a rosette the first year and a 1- to 4-ft (0.3 to 1.2 m) tall flowering stalk the second year. Leaves are dark green, heart shaped, strongly toothed, and 1 to 6 in (2½ to 15 cm) long. Small, white flowers have 4 petals and 6 stamens and bloom in button-like clusters in early spring. Seeds are produced in erect, slender pods that become brown when mature. By late summer plants can only be distinguished by the erect leafless stalks with dry brown seedpods.



a
Infestation



b
Flowers

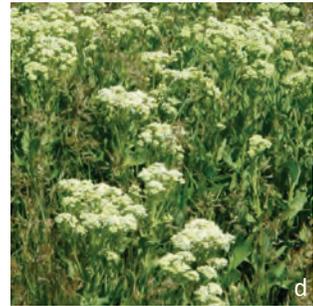


c
Leaves

REPRODUCTION: By seed only

HABITAT: Found in moist, shaded soil of floodplains, forests, roadsides, and trailsides, capitalizing on disturbed soils

LOOK ALIKES: Mustards differ from possible look alikes with their 4 petals (rather than 5 or more) and 6 stamens. Most mustards in the Northwest have yellow flowers, and less commonly purple. White-flowered mustards such as whitetop (d) and perennial pepperweed are also invasive in North America. They can be distinguished by their leaves, which are not heart shaped or deeply toothed. Also, whitetop flowers appear in larger, flat-topped clusters.



d
Look alike (whitetop)

NOXIOUS WEED LISTINGS:

Oregon (B, Quarantine), Washington (A, Quarantine), British Columbia

NOTES: All parts of the plant give off a garlic odor when crushed.



f

Distribution

Credits: a) Steven Katovich, USDA Forest Service; b - d) Chris Evans, River to River CWMA, (all www.bugwood.org); e) USDA-PLANTS database

Giant hogweed

Heracleum mantegazzianum

Family Apiaceae

SYNONYMS: Cartwheel flower

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous biennial or perennial up to 15 or 20 ft (4½ to 6 m) tall. The large stems are hollow and usually marked with purple blotches. Leaves are deeply lobed, sharply pointed, and up to 3 ft (0.9 m) wide. The white flowers are on a large compound umbel (all flower stalks arising from the same point) that can be 2½ ft (0.8 m) in diameter. Flowering occurs in late spring to early summer. Fruits are elliptic and when dry are marked with brown, swollen resin canals less than 1/16 in (1 mm) in diameter.



Plant



Inflorescence



Stem



Fruit

REPRODUCTION: By seed only

HABITAT: Found in moist, disturbed soils such as riverbanks, ditches, and railroad rights-of-way

LOOK ALIKES: Numerous Apiaceae are present in North America and resemble giant hogweed with their white umbel flowers and hollow stems. Only one species (common cowparsnip, e) is large like giant hogweed and has massive lobed leaves. Common cowparsnip differs in that even at its maximum size, it can only reach heights of 10 ft (3 m) and has smaller leaves up to 18 in (45 cm) wide.



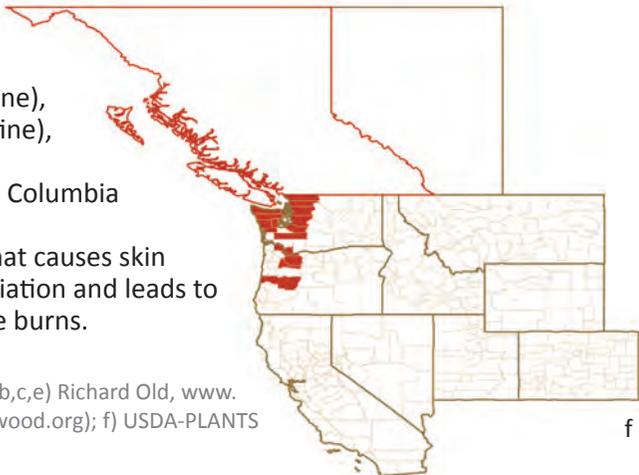
Look alike (common cowparsnip)

NOXIOUS WEED

LISTINGS:

California (Quarantine),
Oregon (A, Quarantine),
Washington
Quarantine), British Columbia

NOTES: Produces sap that causes skin sensitivity to UV radiation and leads to blistering and severe burns.



f

Distribution

Credits: a,d) USDA APHIS PPQ; b,c,e) Richard Old, www.xidservices.com, (all www.bugwood.org); f) USDA-PLANTS database

Harmal peganum

Peganum harmala

Family Zygophyllaceae

SYNONYMS: African rue, Syrian rue

ORIGIN: Mediterranean, Africa, and the Middle East

GROWTH TRAITS: Perennial shrub with a low-growing, bushy habit reaching 2 to 3 ft (0.6 to 0.9 m) in height. Stems and leaves are fleshy. Leaves are alternate, irregularly divided, 0.8 to 2 in (2 to 5 cm) long, and bright green. The white, 5-petaled flowers are present from late spring to early fall in leaf axils. The fruit is a 2- to 4-celled leathery capsule that contains 45 to 60 seeds. Seeds are angular and dark brown with a distinctive smell, especially when crushed.

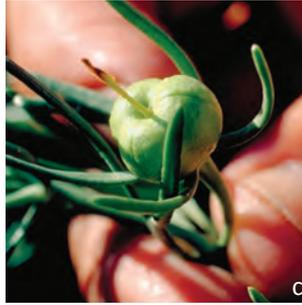


a

Plant



Flower



Fruit



Leaves

REPRODUCTION: Primarily by seed; severed roots can produce new shoots

HABITAT: Found in disturbed environments, roadsides, and fields in desert to semi-desert areas

LOOK ALIKES: Vaguely resembles shrubby species of sandwort (*Arenaria*, e), which also have dark green and long, linear leaves and white, 5-petaled flowers. Shrubby sandworts usually grow no taller than $\frac{2}{3}$ ft (20 cm). Flowers of harmful peganum have 10 to 15 yellow-tipped stamens while those of sandworts have 10 white stamens tipped with brown.



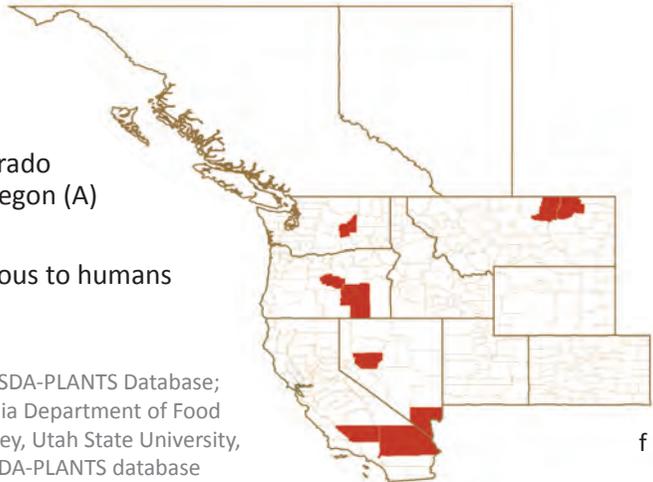
Look alike (sandwort)

NOXIOUS WEED

LISTINGS:

California (A), Colorado (A), Nevada (A), Oregon (A)

NOTES: Can be poisonous to humans and livestock.



Distribution

Credits: a & b) G.A. Cooper, USDA-PLANTS Database; c & d) Douglas Barbe, California Department of Food and Agriculture; e) Steve Dewey, Utah State University, (all www.bugwood.org); f) USDA-PLANTS database

Knotweeds

Polygonum spp.

Family Polygonaceae

GROWTH TRAITS: Four invasive species of large knotweeds occur in the Northwest. These include giant knotweed (*P. sachalinense*), Himalayan knotweed (*P. polystachyum*), Japanese knotweed (*P. cuspidatum*), and a hybrid of giant and Himalayan, Bohemian knotweed (*P. x bohemicum*). All are semi-woody perennials with jointed, reddish brown stems swollen at the nodes with a papery sheath above each stem node and at the base of leaf stalks. Leaves are alternate. Flowers are small, white with green or pink tinges, hang in clusters from leaf axils, and bloom in late summer.

ORIGIN: All are native to Asia



Japanese knotweed

a

Plant (Japanese)



Branches (giant)



Flowers (giant)



Leaves (giant)



Inflorescence (Japanese)



Flowers (Japanese)



Leaves (Japanese)



Plant (Himalayan)



Branch (Himalayan)



Inflorescence (Himalayan)

LOOK ALIKES: The combination of large, alternate leaves with flower clusters in leaf axils; papery sheaths at nodes; and a shrubby habit help differentiate these species from look alike. To distinguish between each:

Giant K.: large ovate leaves (more heart shaped than Japanese K.) grow up to 12 in (30 cm) long. Plant reaches heights of 12 ft (3.6 m).

Japanese K.: ovate leaves grow 4 to 6 in (10 to 15 cm) long. Plant reaches heights of 8 ft (2.4 m).

Bohemian K.: traits intermediate of both parents (giant and Japanese K.).

Himalayan K.: lance-shaped leaves grow 4 to 8 in (10 to 20 cm) long. Plant reaches heights of 6 ft (1.8 m).

Knotweeds, continued

Family Polygonaceae

Polygonum spp.

REPRODUCTION: All spread by seed, creeping rhizomes, and root fragments

HABITAT: All can be found in riparian areas, disturbed sites, and roadsides in a variety of soil conditions, but do best in moist areas with partial sun

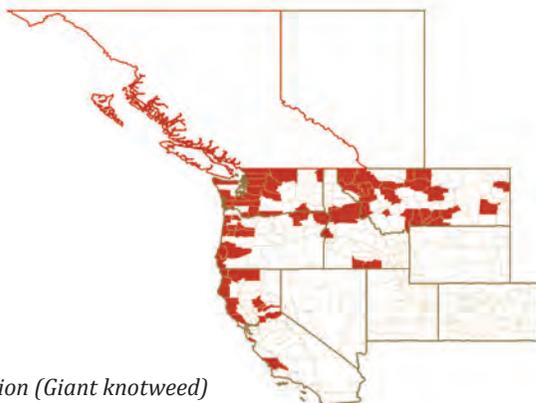
SYNONYMS:

Giant K.: Sakhalin knotweed, sacaline

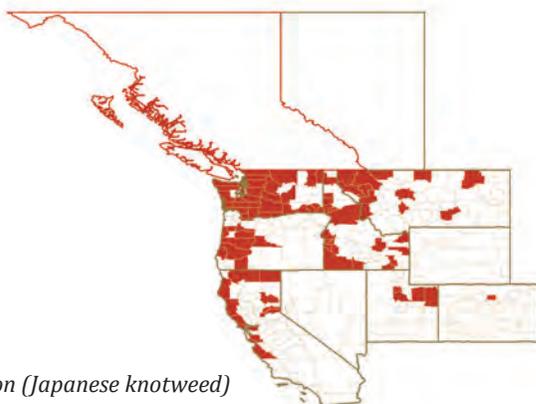
Japanese K.: Japanese bamboo, Mexican bamboo, Japanese fleecflower

Bohemian K.: No other widely accepted common names

Himalayan K.: Bell-shaped knotweed



k *Distribution (Giant knotweed)*

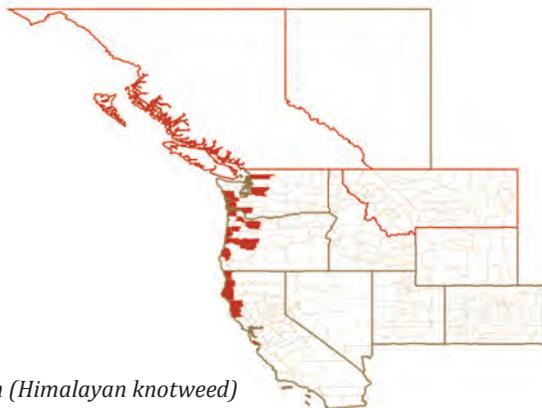
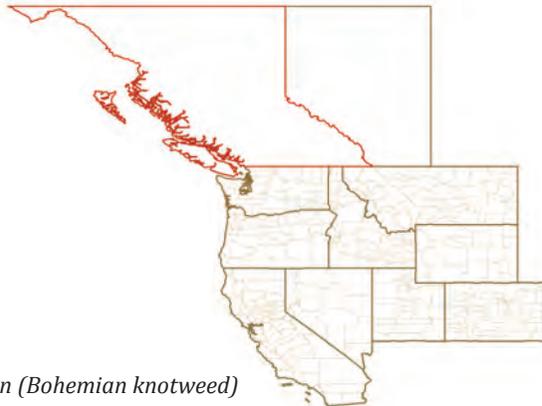


l *Distribution (Japanese knotweed)*

NOXIOUS WEED LISTINGS:

Giant K.: California (B), Idaho (EDRR), Oregon (B, Quarantine), Washington (B, Quarantine), British Columbia; Japanese K.: Idaho (Control), California (B), Oregon (B, Quarantine), Washington (B, Quarantine), Wyoming (Weed alert), British Columbia; Bohemian K.: Idaho (Control), Washington (B, Quarantine); Himalayan K.: California (B), Oregon (B, Quarantine), Washington (B, Quarantine)

Credits: a) Chris Evans, River to River CWMA, www.bugwood.org; b) Richard Old, www.xidservices.com, www.bugwood.org; c) Tom Heutte, USDA Forest Service, www.bugwood.org; d) Jan Samanek, State Phytosanitary Institution, www.bugwood.org; e & f) James Miller, USDA Forest Service, www.bugwood.org; g) Ohio State Weed Lab Archive, Ohio State University, www.bugwood.org; h-j) © CDFA 2001; k-n) USDA-PLANTS database



Mediterranean sage

Salvia aethiopsis

Family Lamiaceae

SYNONYMS: African sage

ORIGIN: Europe and the Mediterranean

GROWTH TRAITS: Herbaceous biennial with square branching stems up to 3 ft (0.9 m) tall. Fine, woolly hairs cover the stems, new leaves, and mature leaf undersides. Mature plants become less hairy and develop prominent venation on the leaves. Rosette leaves are grayish green, triangular with jagged teeth, and 4 to 12 in (10 to 30 cm) long. Stem leaves are opposite, smaller, and aromatic when crushed. Whitish flowers are bilabiate (2 lipped), clustered at stem tips, and bloom June through August.



Plant



Flowers



Fruits



Leaves

REPRODUCTION: By seed only

HABITAT: Found in dry soils and disturbed habitats such as roadsides and abandoned fields

LOOK ALIKES: The opposite leaves and square stems differentiate this plant from nonLamiaceae look alike. Within the family, there are many native and exotic species of *Salvia* that it resembles. Most do not have white flowers; those that do are not strongly 2 lipped (e). Most *Salvia* look alike also do not have flowers in such long, tight clusters as Mediterranean sage and have very different leaves.



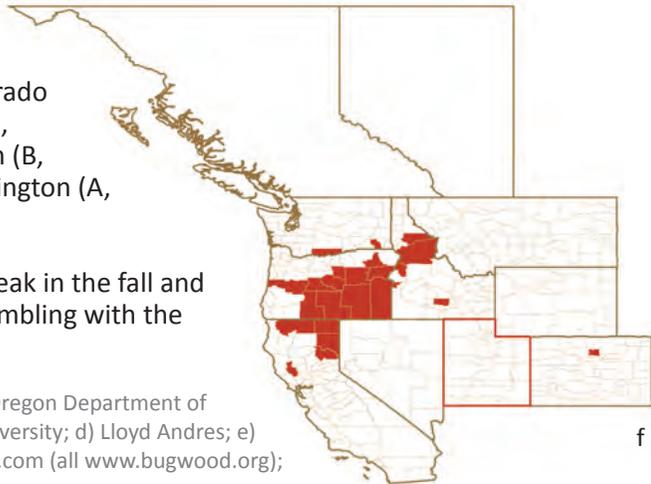
Look alike (*Salvia* spp.)

NOXIOUS WEED

LISTINGS:

California (B), Colorado (A), Idaho (Control), Nevada (A), Oregon (B, Quarantine), Washington (A, Quarantine)

NOTES: Stem bases break in the fall and spread seeds by tumbling with the wind.



f

Distribution

Credits: a & b) Eric Coombs, Oregon Department of Agriculture; c) Utah State University; d) Lloyd Andres; e) Richard Old, www.xidservices.com (all www.bugwood.org); f) USDA-PLANTS database

Professor-weed

Galega officinalis

Family Fabaceae

SYNONYMS: Goatsrue, Goat's rue

ORIGIN: Middle East

GROWTH TRAITS: Herbaceous perennial that grows up to 6 ft (1.8 m) in height. Plants are shrubby and multistemmed. Stems are somewhat hollow and cylindrical. Leaves are alternate and completely divided with 6 to 10 pairs of leaflets up the sides and one lone leaflet at the tip. Flowers are white (occasionally light purple), characteristic of the pea family (2 distinctive lips), and are arranged in terminal clusters. Flowering is from June to July. Fruits are pods just larger than 1 in (3 cm) long.



a

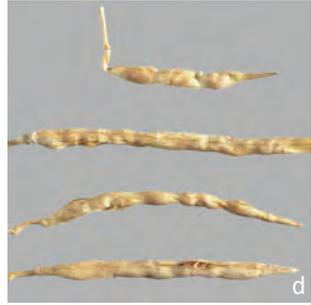
Plant



Flowers



Leaf



Fruits

REPRODUCTION: By seed only

HABITAT: Found in cropland; ditch banks; irrigation waterways; uncut pastures; fence lines; roadways; and wet, marshy areas

LOOK ALIKES: The unique, 2-lipped flowers characteristic of the pea family as well as the completely divided leaves help differentiate this species from all other plants outside of the Fabaceae. Within the family, a number of milkvetch and vetch species resemble professor-weed. Milkvetch leaves also have one terminal unpaired leaflet, but they tend to have a larger number of leaflet pairs (10 to 16). Vetches (e) are more vining in habit, and have clasping tendrils in place of the terminal leaflet.



Look alike (vetches)

NOXIOUS WEED LISTINGS:
California (B), Nevada (B)

NOTES: This plant is traditionally used in the treatment of diabetes.

Credits: a & b) USDA APHIS PPQ Archive; c) Steve Dewey, Utah State University; d) Julia Scher, USDA APHIS PPQ; e) Richard Old, www.xidservices.com (all www.bugwood.org); f) USDA-PLANTS database



Distribution

Wild chervil

Anthriscus sylvestris

Family Apiaceae

SYNONYMS: Bur chervil (incorrectly), cow parsley, raven's wing

ORIGIN: Europe

GROWTH TRAITS: Herbaceous annual or biennial growing 20 to 60 in (50 to 150 cm) tall. Stems are branching, not hairy, and often purple. Leaves are larger at the base with short, stiff hairs, and are gradually reduced upward. Leaves are 2 or 3 times divided, appearing fernlike. The spring flowers are white umbels (individual flower stems all arise from one point) giving way to smaller umbels of 3 to 7 flowers with 5 petals and short hairs at their base. Fruits are $\frac{1}{8}$ to $\frac{1}{2}$ in (4 to 5 mm) long, beaked, black or brown, and smooth.



Infestation



Inflorescence



Leaf



Fruits

REPRODUCTION: By seed only

HABITAT: Found in moist areas often with disturbed soils

LOOK ALIKES: Wild chervil resembles bur chervil (another species exotic in the Northwest) in plant form, leaf shape, flower shape, and habitat. The fruits of bur chervil can be differentiated because they are covered in hooked spines. Wild chervil also resembles poison hemlock (e), a deadly species invasive in North America. Poison hemlock can grow much taller (10 ft or 3 m) and has larger stems overall covered in small, purple spots.



Look alike (poison hemlock)

NOXIOUS WEED LISTINGS:
Washington (B, Quarantine),
British Columbia

NOTES: This plant is considered edible, but should be avoided due to its resemblance to poison hemlock.



f

Distribution

Credits: a & d) Richard Old, www.xidservices.com;
b & c) John Cardina, Ohio State University; e) Ohio State University Weed Lab Archive (all www.bugwood.org); f) USDA-PLANTS database

Brazilian waterweed

Egeria densa

Family Hydrocharitaceae

SYNONYMS: Brazilian elodea

ORIGIN: South America

GROWTH TRAITS: Herbaceous, submerged perennial with green, slender stems, generally branched, and up to 10 or 16 ft (3 to 5 m) long. Leaves are opposite below, crowded and whorled above, with (usually) 4 to 6 leaves per whorl. Leaves are up to 1 in (2½ cm) long and have finely toothed margins. Flowers are unisexual with 3 white, showy petals that float 1 in above the water surface on threadlike structures from specialized nodes. Flowering has not been observed in North American populations.



Infestation



Stem and leaves b



Plant c

REPRODUCTION: Mostly by fragments containing specialized plant nodes

HABITAT: Found in water up to 20 ft (6 m) deep, often in warm freshwater ponds, lakes, and reservoirs or in slow-flowing streams and sloughs

LOOK ALIKES: Most often resembles the native Canadian waterweed (d) and the invasive waterthyme. Canadian waterweed has smaller leaves (0.4 in or 1 cm) in whorls of 3 without toothed margins. Waterthyme has leaves in whorls of 3 to 8 with toothed margins and prominent midveins often with 1 or 2 sharp spines along those midribs.



Look alike (Canadian waterweed) d

Waterthyme produces tubers while Brazilian and Canadian waterweed do not.

NOXIOUS WEED LISTINGS:

Idaho (EDRR), Oregon (B, Quarantine), Washington (B, Quarantine)

NOTES: This species is often sold in the aquarium trade.

Credits: a) William Haller, University of Florida; b) Richard Old, www.xidservices.com; c) Leslie Mehrhoff, University of Connecticut; d) Richard Old, www.xidservices.com (all www.bugwood.org); e) USDA-PLANTS database



e

Distribution

Carolina fanwort

Cabomba caroliniana

Family Cabombaceae

SYNONYMS: Fanwort, cabomba, Carolina water-shield

ORIGIN: Southeastern United States and South America

GROWTH TRAITS: Herbaceous, submerged perennial from short rhizomes. Branched stems grow to 33 ft (10 m) long with scattered hairs. Underwater leaves are opposite and finely divided, resulting in a feathery, fan-like appearance. These are 2 in (5 cm) across and secrete a mucous that covers submerged plant parts. Floating leaves are inconspicuous, smaller, alternate, and undivided. Solitary, floating flowers are up to 0.8 in (2 cm) across with 3 whitish petals and 3 similar sepals, blooming through summer.



Plant



Submerged plant



Infestation

REPRODUCTION: Mostly by fragments containing specialized plant nodes

HABITAT: Found in water 3 to 10 ft (1 to 3 m) deep, often in ponds, lakes, and quiet streams

LOOK ALIKES: Most easily confused with other submersed plants with finely divided leaves such as white water-buttercup (*Ranunculus longirostris*), which has alternate leaves; water-marigold (*Megalodonta beckii*), which has leaves on short stalks; coontails (*Ceratophyllum* spp., image d), which lack roots and have whorled leaves; or the watermilfoils (*Myriophyllum* spp.), which have whorled, feather-shaped leaves.

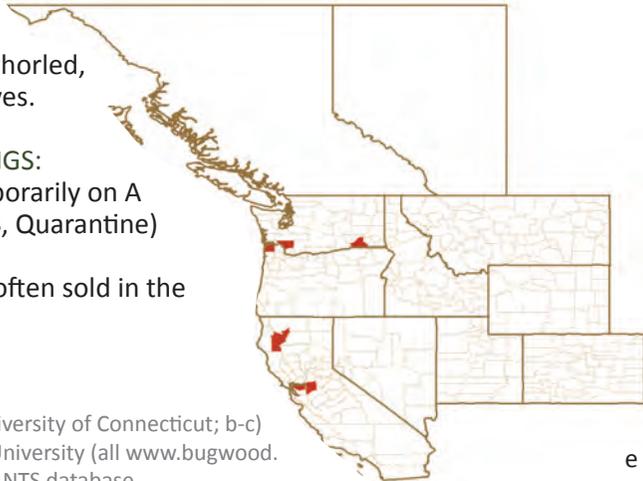


Look alike (*Ceratophyllum* spp.)

NOXIOUS WEED LISTINGS:

California (Q - temporarily on A list), Washington (B, Quarantine)

NOTES: This species is often sold in the aquarium trade.



e

Distribution

Credits: a) Leslie Mehrhoff, University of Connecticut; b-c) Troy Evans, Eastern Kentucky University (all www.bugwood.org); d) S. Tanaka; e) USDA-PLANTS database

Common water hyacinth

Eichhornia crassipes

Family Pontederiaceae

SYNONYMS: Water hyacinth

ORIGIN: South America

GROWTH TRAITS: Herbaceous, free-floating perennial growing up to 3 ft (1 m) in height. This plant produces large, dense mats and vigorous stolons (similar to strawberry runners). Leaves are oval to elliptical, thick, up to 6 in (15 cm) wide, waxy with sometimes spongy leaf stalks, and curve at the edges. The very showy blue-purple flowers are born on upright spikes in clusters of 8 to 15. Each flower has 6 petals with the uppermost having a yellow patch outlined in blue. Flowering occurs from summer through fall.



Infestation



b
Plant



c
Roots and stolons

REPRODUCTION: By seeds and stolons

HABITAT: Found in shallow temporary ponds, wetlands and marshes, sluggish flowing waters, lakes, and reservoirs, and can withstand a variety of pH, nutrient, flow, and temperature conditions

LOOK ALIKES: Most closely resembles American spongeplant (d), which also has large, spongy, waxy leaves in floating mats. However, American spongeplant is native to the Eastern United States; has leaves more heart shaped than those of common water hyacinth; has firm ridges on its leaf stalks; and produces small, white, nonshowy flowers.



d
Look alike (American spongeplant)

NOXIOUS WEED LISTINGS:
California (C), Idaho (EDRR),
Washington (Monitor list)

NOTES: This is one of the fastest growing plants in the world, doubling its biomass every 6 to 18 days.

Credits: a) Wilfredo Robles, Mississippi State University; b) Katherine Parys, Louisiana State University; c) Chris Evans, River to River CWMA; d) Gerald Lenhard (all www.bugwood.org); e) USDA-PLANTS database



e

Distribution

Parrotfeather & Twoleaf milfoil

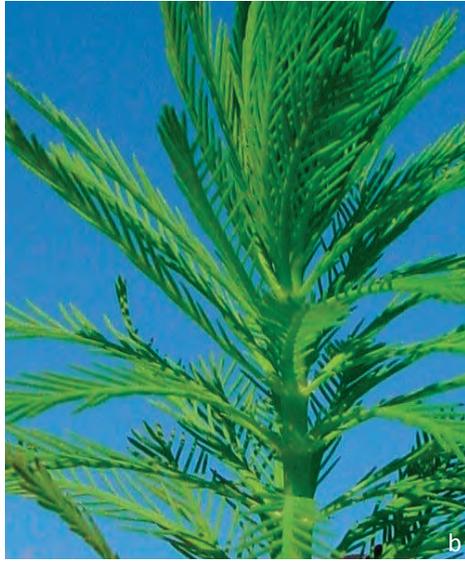
Myriophyllum aquaticum & *M. heterophyllum*

Family Haloragaceae

SYNONYMS for Parrotfeather milfoil (PM): Parrot feather watermilfoil



Infestation (parrotfeather)



Leaves (parrotfeather)

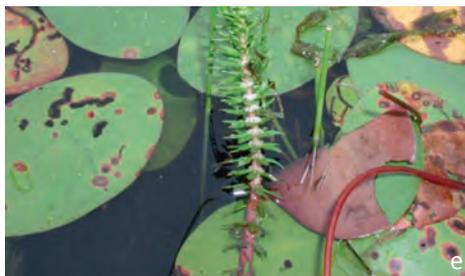
SYNONYMS for Twoleaf milfoil (TM): Twoleaf watermilfoil, variable watermilfoil



Leaves and stem (twoleaf)



Infestation (twoleaf)



Plant (twoleaf)

ORIGIN: PM is native to South America; TM is native to the Southern United States

GROWTH TRAITS: Perennial herbs with two noticeably different leaves: submerged and emergent. The submerged leaves are limp, finely divided, and in whorls of 4 to 6. Emergent leaves are much stiffer. All stems are reddish brown. Flowers are inconspicuous in the leaf axils. PM: Submerged leaves are $\frac{1}{2}$ to $1\frac{1}{2}$ in ($1\frac{1}{2}$ to $3\frac{1}{2}$ cm) long with 20 to 30 divisions per leaf. Emergent leaves are darker green, $\frac{3}{4}$ to 2 in (2 to 5 cm) long with 6 to 18 divisions, and stand up to 1 ft (30 cm) above the water surface. TM: Submerged leaves are $\frac{1}{2}$ to 2 in ($1\frac{1}{2}$ to 5 cm) long with 10 to 28 divisions per leaf. Emergent leaves are lance shaped to elliptic, $\frac{1}{8}$ to $\frac{1}{2}$ in (0.3 to 1.2 cm) long, toothed, and stand 6 to 8 in (15 to 20 cm) out of the water.

REPRODUCTION: PM: fragmentation, TM: fragmentation and seed

HABITAT: Found in high-nutrient fresh water up to 10 ft (3m) deep in lakes, ponds, streams, and canals; occurs in deeper water if nutrients are sufficient

LOOK ALIKES: Confused with white water-buttercup, which has alternate leaves; coontails, which lack roots and have rough leaves in whorls of 5 to 12; or other watermilfoils. Leaves of Eurasian watermilfoil are always submerged. Western watermilfoil emergent leaves are narrower than the look alike twoleaf and not as deeply toothed.

NOXIOUS WEED LISTINGS:

PM: Idaho (Control list), Washington (A, Quarantine); TM: Washington (A)



Credits: a & b) Richard Old; c) Vic Ramey; d) Ann Murray; c & d) University of Florida/IFAS Center for Aquatic and Invasive Plants (Used with permission); e) Leslie Mehrhoff, University of Connecticut, www.bugwood.org; f & g) USDA-PLANTS database

Swollen bladderwort

Utricularia inflata

Family Lentibulariaceae

SYNONYMS: Inflated bladderwort, large floating bladderwort

ORIGIN: Southeastern United States

GROWTH TRAITS: Herbaceous, usually rootless, carnivorous perennial growing up to 6 ft (1.8 m) long. Stems branch into highly divided leaf-like segments, lending a bushy appearance. Seed-like bladders are triggered by invertebrates that are sucked inside and digested by enzymes, giving the plant nutrients. Yellow, snapdragon-like flowers are born in clusters of 3 to 14 on upright stalks supported by a spoke-like whorl of 4 to 10 wedge-shaped floating leaves, up to 3½ in (9 cm) long. Flowering is from June to July.



a

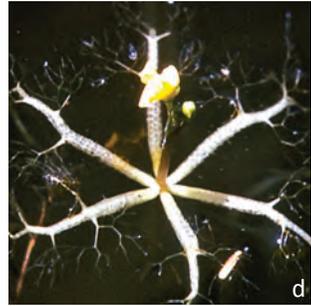
Plant



b
Leaves



c
Bladders

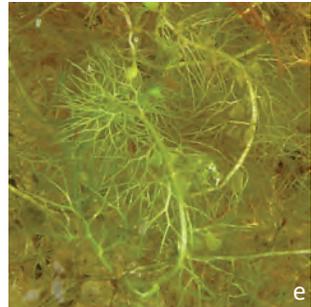


d
Flowering plant

REPRODUCTION: Via seed, fragmentation, and occasionally tubers

HABITAT: Found in slow-moving waters, including lakes, ponds, and slow-moving rivers of different depths and with varying nutrient levels

LOOK ALIKES: The Northwest has several species of bladderworts (e) that can be readily distinguished from other aquatic plants by the seed-like structures (bladders) that are interspersed throughout the foliage. When flowering, bladderworts native to the Northwest do not have spokes supporting the flowers. Size, flower color, and the interspersing of bladders (rather than forming at branch tips) help differentiate swollen bladderwort from other species not native to the Northwest.



e
Look alike (native bladderwort)

NOXIOUS WEED LISTINGS:
Washington (Monitor list)

NOTES: This species lives year round in the South, but dies back to overwinter in the North.

Credits: a) Jeff McMillian; b & c) Erica Asai; d) R. Howard, Smithsonian Institution; e) Veledan; a - c, f) USDA-PLANTS database



f
Distribution

Waterthyme

Hydrilla verticillata

Family Hydrocharitaceae

SYNONYMS: Hydrilla, Esthwaite waterweed

ORIGIN: Likely Asia, but is cosmopolitan in Europe, Africa, and Australia

GROWTH TRAITS: Herbaceous, submerged perennial from small tubers with stems heavily branched near the surface. Slender stems can grow up to 30 ft (9 m) long. Leaves are $\frac{1}{4}$ to $\frac{3}{4}$ in (6 to 20 mm) long, $\frac{1}{8}$ in (2 to 4 mm) wide, with saw-tooth edges and one or two spines under the midrib, and grow in whorls of 3 to 8. Turions (overwintering vegetative buds) are produced in the axils of leaves. The plant sometimes produces very small, floating flowers; white flowers are female, and the reddish, inverted bell-shaped flowers are male.



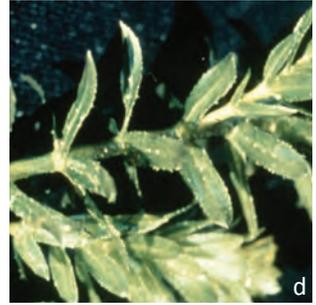
Infestation



Tubers



Plants



Leaves

REPRODUCTION: Via seed, fragmentation, and tubers

HABITAT: Found in water up to 20 ft (6 m) deep in lakes, marshes, ditches, rivers, and tidal zones. It can grow in low light and CO₂ conditions.

LOOK ALIKES: Most often resembles native Canadian waterweed (e) and invasive Brazilian waterweed. Canadian waterweed has leaves in whorls of 3 without toothed margins. Waterthyme leaves are in whorls of 3 to 8 with toothed margins and prominent midveins often with one or two sharp spines along those midribs. Brazilian waterweed flowers are large. Waterthyme produces tubers; Brazilian and Canadian waterweed do not.



Look alike (Canadian waterweed)

NOXIOUS WEED LISTINGS:
California (A, Quarantine),
Colorado (A, Quarantine),
Idaho (EDRR), Oregon (A,
Quarantine),
Washington (A, Quarantine)

NOTES: This plant is one of the world's worst weeds.

Credits: a) David Moorhead, University of Georgia; b) Tim Murphy, University of Georgia; c) Chris Evans, River to River CWMA; d) USDA APHIS PPQ Archive; e) Richard Old, www.xidservices.com (all www.bugwood.org); f) USDA-PLANTS database



f

Distribution

Yellow floatingheart

Nymphoides peltata

Family Menyanthaceae

SYNONYMS: Fringed water-lily, yellow floating-heart, water fringe

ORIGIN: Eurasia

GROWTH TRAITS: Herbaceous, rooted perennial with long, branched stolons extending 3.2 ft (1 m) or more beneath the water surface. Stolon nodes typically produce a plant and many thread-like roots. Leaves are almost circular in shape, have wavy margins and purplish undersides, and are 1 to 4 in (3 to 10 cm) in diameter on long stalks arising from stolons. Flowers are bright yellow, 1 to 2 in (2½ to 4 cm) across, have 5 petals, and occur in clusters of 1 to 5 held above the water surface on long stalks. Petal edges are fringed.



Infestation



b
Flower



c
Plant

REPRODUCTION: By seeds and stolons

HABITAT: Found in slow-moving rivers, lakes, reservoirs, ponds, and swamps 1½ to 13 ft (½ to 4 m) deep. It can also grow on damp mud.

LOOK ALIKES: Resembles spatterdocks (*Nuphar* spp.), which have much larger leaves and cup-like flowers without fringed petals (d), and water shield (*Brasenia schreberi*), which has small, oval floating leaves often with a jelly like covering on the undersides, and small purple flowers. Other species of *Nymphoides* are smaller than yellow floatingheart, have white flowers, and are not native to the Northwest.



d
Look alike (spatterdock)

NOXIOUS WEED LISTINGS:
Oregon (A, Quarantine),
Washington (B, Quarantine)

NOTES: This species is most often introduced on purpose as an aquatic ornamental.



e

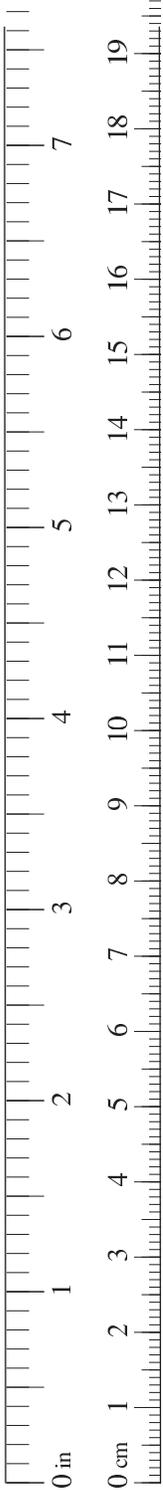
Distribution

Credits: a) G.A. Cooper, Smithsonian Institution; b) TeunSpaans; c) © CDFA 2001; d) Paul Bolstad, University of Minnesota, www.bugwood.org; e) USDA-PLANTS database

Glossary

alternate	Leaf arrangement where one leaf arises from the stem at a time
annual	A plant that flowers and dies within a period of one year from germination
awn	Bristle-like appendage on grass seeds that extends beyond the seed, as throughout the seed heads of wheat
axil	Where a leaf attaches to the stem
basal	At the base of a plant or plant part
biennial	A plant that flowers and dies between its first and second years and often does not flower in its first year
bolting	To develop a flowering stem from a rosette
bract	A small, leaf-like structure below the flower
divided	A leaf whose margin is not entire but rather extends inward to the midvein, creating numerous small leaflets
exotic	Not native
floret	One of the small, closely clustered flowers forming the head of a composite flower in the sunflower family
flower head	Cluster of numerous florets, which is common in the sunflower family; resembles one individual flower
inflorescence	The flowering part of a plant

ligule	Thin, papery outgrowth at the junction of leaves and leaf stems in grass species
lobed	A leaf with shallow or rounded, deeply indented margins, as in a thistle rosette leaf
opposite	Leaf arrangement where two leaves arise from the stem at the same height but on opposite sides of the stem
perennial	A plant that lives more than two years
rhizomatous	Having a rootlike subterranean stem, commonly horizontal in position, that produces roots below and sends up shoots progressively to the upper surface
rosette	A compact, circular, and normally basal cluster of leaves
seed head	Synonym for flower head
succulent	Thick and fleshy
umbel	Cluster of flowers where all flower stalks are of similar length and originate from the same point
variegated	Of different colors, not monochrome
whorled	Cluster of three or more leaves arising out of the stem at the same height in a ring around the stem



ENGLISH TO METRIC CONVERSIONS (LENGTH)				
Symbol	When You Know	Multiply By	To Find	Symbol
in or "	inches	2.54	centimeters	cm
ft or '	feet	0.305	meters	m
yd	yards	0.914	meters	m