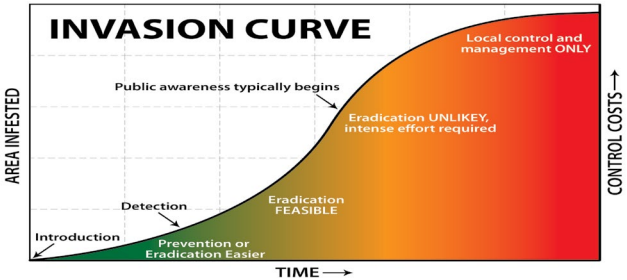
Worst Weeds of the Gorge

A Guide for Early Detection and Rapid Response in the Columbia River Gorge

Introduction to Early Detection and Rapid Response

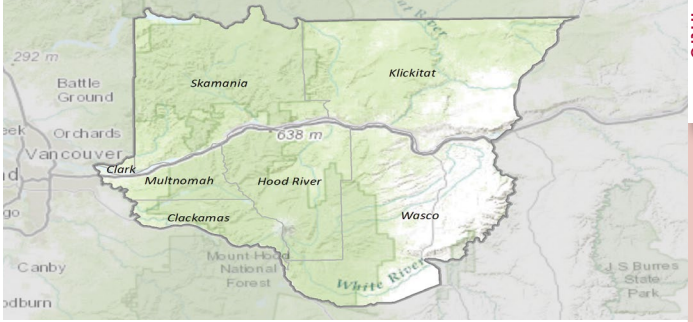
Early Detection and Rapid Response (EDRR) is an approach to invasive species management that focuses on surveying and monitoring areas to find and treat infestations at their earliest stages of invasion. Once a targeted species is found, control measures are implemented rapidly to prevent establishment and spread. After prevention, EDRR is the most successful, cost effective, and least environmentally damaging means of invasive species control.



Columbia Gorge Cooperative Weed Management Area

Partners from over twenty private, non-profit, local, state, and federal organizations make up the Columbia Gorge Cooperative Weed Management Area (CG-CWMA). The CWMA provides a means to effectively coordinate actions to address invasive weeds on lands within its jurisdiction. Because weeds readily cross management boundaries, it is in each party's interest to coordinate efforts to accomplish effective, integrated invasive weed management.

Intro



This EDRR weed identification guide was developed to aid in identifying, detecting and reporting the weeds that have been given priority for early detection and rapid response in the Columbia River Gorge. Thank you in advance for your commitment to keeping invasive weeds out of our region.

Watch for weeds, but don't spread 'em: Take care not to spread invasive plant seeds and materials as you hike, bike, or boat! Brush off your boots, bike, and dog before and after using the trail or natural area. If you get in water, clean and dry your boat and gear before going to a new place. Look for boot brushes like this one at trailheads throughout the Gorge.

How to Report

Step 1: Collect information about your sighting

If you suspect that you have found any of the weeds included in this ID guide, please record the following information so we can follow up on your report:

1. Take a picture of the plant: Include something to show scale (a ruler or a common object like a quarter) and close-ups of distinctive features of the plant. Take your time to make sure the photo is in focus.

2. Collect a written description of the plant: Are the stems or leaves hairy, smooth, or waxy? Note color, shape, and size of flowers and leaves.

3. Collect location information: GPS coordinates are the best; written directions to the site work, too. The closest address, intersection or mile marker, or how far past a trail or bridge crossing, as well as nearby landmarks are most helpful.

4. Collect infestation size: How many feet wide and how many feet long is the weed patch? You may also estimate the number of plants at the site.

Step 2: Report your EDRR sighting

There are two ways to report your EDRR sighting:

Online: The easiest and best reporting method is through the online Oregon Invasive Species Hotline website.

Visit www.oregoninvasiveshotline.org and click on the 'Report Now' button. Fill out the form, making sure you provide all of the information listed above. Make sure to add your images of the plant. **Important:** Always include your contact information so we can follow up with you. Often, we need more information before we can respond to a report. Infestations in both Oregon and Washington can be reported on this website.

Phone: If you do not have access to the internet, the second way to report an EDRR sighting is by phone. To report an infestation in either Oregon or Washington, please call 1-877-9-INFEST (1-877-946-3378).

What We Will Do

If a species from this guide is reported to us, we will contact the landowner and request permission to visit the reported site. We will then visit the site to verify the species and determine the most effective response.

For several species in this guide, control is only available in certain areas or habitats.

Web Resources

Descriptions and photos of listed Noxious Weeds in the State of Oregon:

http://www.oregon.gov/oda/plant/weeds

Descriptions and photos of listed Noxious Weeds in the State of Washington:

http://www.nwcb.wa.gov

Garlic Mustard

Alliaria petiolata

General: Biennial or winter annual forb. Rosettes form by late spring in first year, blooms April to June second year. Distinct "S" or "L"-shaped curve at top of root. Typically 1 to 3 feet tall, up to 5 feet. Able to self-pollinate.

Leaves: Basal leaves dark green, kidney-shaped, 2 to 6 inches across, deeply veined. Leaves of young rosettes rounded or kidney-shaped. Stem leaves alternate, sharply toothed, triangular, and smaller toward top of stem. Produce distinct garlic odor when crushed.

Flowers: Flower stalks usually single and unbranched. Flowers are ¼ inch wide with 4 white petals. Flowers April to June.

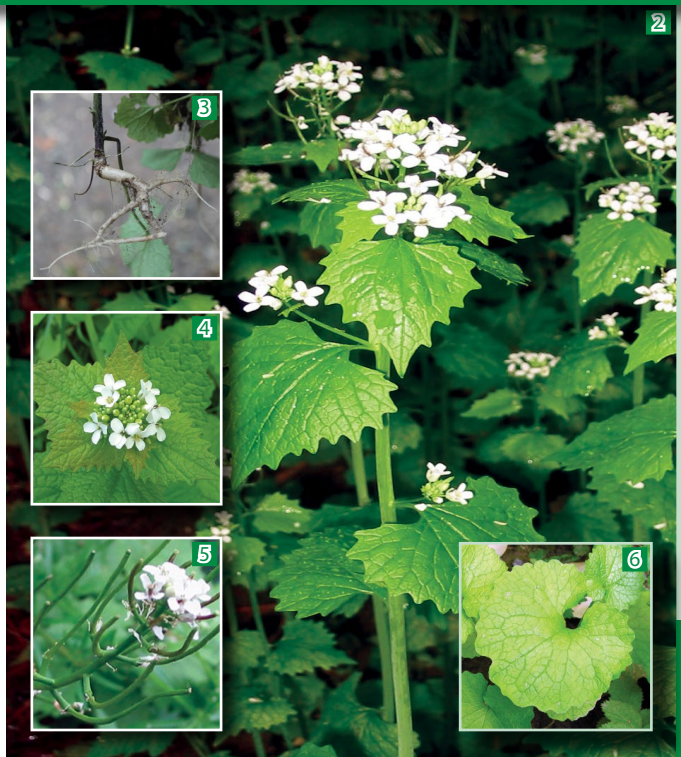
Fruits: Small, dark, smooth, football-shaped seeds form in narrow, green seedpods beginning in May. As the seed matures, the pods turn brown and seeds are ejected.

Notes: Spreads easily along trails and roads. In the rosette stage, there are several common look-a-likes; wild violets, fringecup, creeping Charlie and piggyback plant.

Impacts: Serious threat to native forest understory. Commonly invades roadsides, streamsides, trails, agricultural land, and residential gardens, rapidly displacing native species. Root exudes chemicals that inhibit other plants' establishment and growth.

Photo Credits
1. Emily Stevenson, CG-CWMA
2. Glenn Miller, Oregon Department of Agriculture
3. WA Noxious Weed Control Board
4. Emily Stevenson, CG-CWMA
5. Tom Forney, Oregon Department of Agriculture
6. Emily Stevenson, CG-CWMA

Forbs



Giant Hogweed

Heracleum mantegazzianum

Photo Credits
1. Mitch Bixby, City of Portland
2. Mitch Bixby, City of Portland
3. Mitch Bixby, City of Portland
4. Glenn Miller, Oregon Department of Agriculture
5. Mitch Bixby, City of Portland

Forbs

General: Perennial forb. 10 to 17 feet tall. Leaves in a rosette are large and can be up to 5 feet wide and 4 feet tall. Stalk and flowerhead develop after 2 to 4 years then plant dies back. Stalks 2 to 4 inches in diameter, hollow with raised, purple blotches and erect hairs.

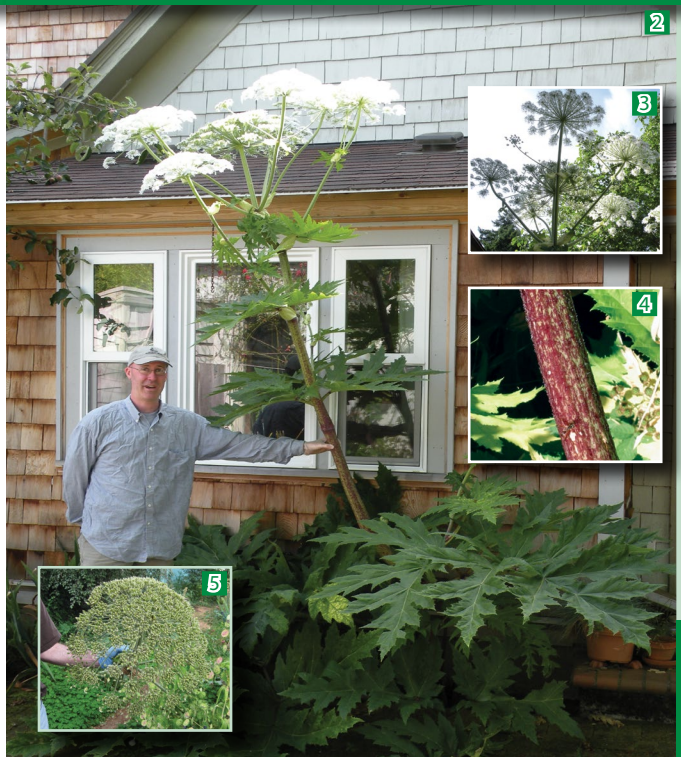
Leaves: 3 to 5 feet wide, with 3 leaflets per leaf. Leaflets deeply incised and lower surface is scaly.

Flowers: Flowerhead made up of numerous, white flowers, umbrella-like, up to 2 ½ feet in diameter. Flowers mid-May through July.

Fruit: Seeds are flat, oval, tan with brown lines, about $^{3}/_{8}$ inch long. Each plant can produce up to 50,000 seeds.

Notes: **This plant is a public health hazard.** Skin that has come in contact with the plant's sap will burn and blister when exposed to sunlight. Native cow parsnip, a giant hogweed look-a-like, typically only grows up to 6 feet tall with a flowerhead of less than 1 foot in diameter and much smaller, less incised leaves.

Impacts: Readily colonizes streambanks, fields, and forest understories where it replaces native vegetation and prevents new trees from growing. Establishment along streams and rivers leads to increased bank erosion.



Goatsrue

Galega officinalis

General: Taprooted, upright, herbaceous, perennial legume grows 2 to 6 feet tall.

Leaves: Odd-pinnate with 5 to 8 pairs of leaflets and a terminal leaflet.

Flowers: Purple, blue, or white flowers in a cluster at the top of the stem and from leaf axils. Blooms June to October.

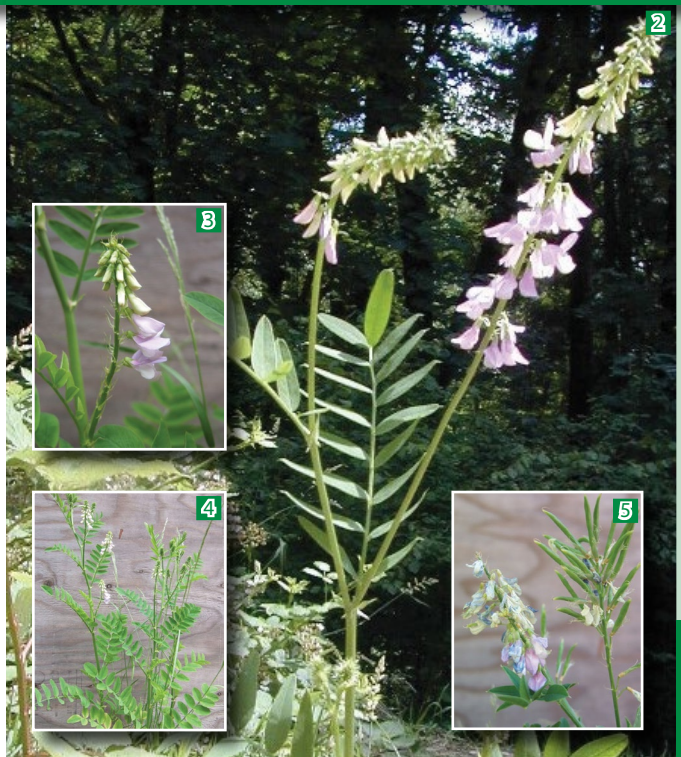
Fruit: Pods are narrow, round in cross section, and slightly more than 1 inch long.

Notes: Differs from vetch (*Vicia* sp.) species because it is upright instead of clambering. Originally introduced from the Middle East as a livestock forage, it was found to be unpalatable. It is also highly toxic to humans and livestock.

Impacts: Grows in sun or shade and reproduces by seed. Displacing native vegetation, seeds spread easily via waterways, contaminated equipment and seed, and animal manure.

Photo Credits

1. King County Noxious Weed Control Program
2. King County Noxious Weed Control Program
3. King County Noxious Weed Control Program
4. King County Noxious Weed Control Program
5. King County Noxious Weed Control Program



Hairy Willow-herb

Epilobium hirsutum

General: Rhizomatous, semi-aquatic, perennial herb grows up to 6 feet tall. Many fine hairs cover entire plant.

Leaves: Lance-shaped, toothed leaves grow opposite on erect, branched stems.

Flowers: 4 pink-purple notched petals with white centers, ¾ inch across, appear toward the top of the plant from July to August.

Fruit: Long, narrow seed pods split open, releasing many seeds with long, white hairs to be dispersed by the wind.

Notes: Found in a wide range of moist soil, including wetlands, ditches, streambanks, low fields, pastures, and meadows. Prefers full sun but can become shade tolerant once established. May be confused with our native fireweed (*Chamerion angustifolium*), which looks similar.

Impacts: Spreads by wind-blown seed and vegetatively by thick rhizomes (underground stems). Aggressively invades moist areas, can impede water flow, and displaces native vegetation in wetland and lowland areas.

1. Gerald D. Carr
2. King County Noxious Weed Control Program
3. King County Noxious Weed Control Program
4. King County Noxious Weed Control Program

Knotweed

Polygonum spp.

General: Perennial forb. Grows to 12 or more feet tall, depending on species, from long, creeping rhizomes. Stout, hollow stems are reddish-brown to green, with slightly swollen nodes. Branches grow in a zigzag pattern. Stems resemble those of bamboo. Propagates mainly from spreading rhizomes. Dies back in winter, but the tall, dead, brown stems often persist.

Leaves: Large, heart-shaped leaves on short stalks. 2 to 16 inches long and 2 to 6 inches wide, with pointed tips. Hairless.

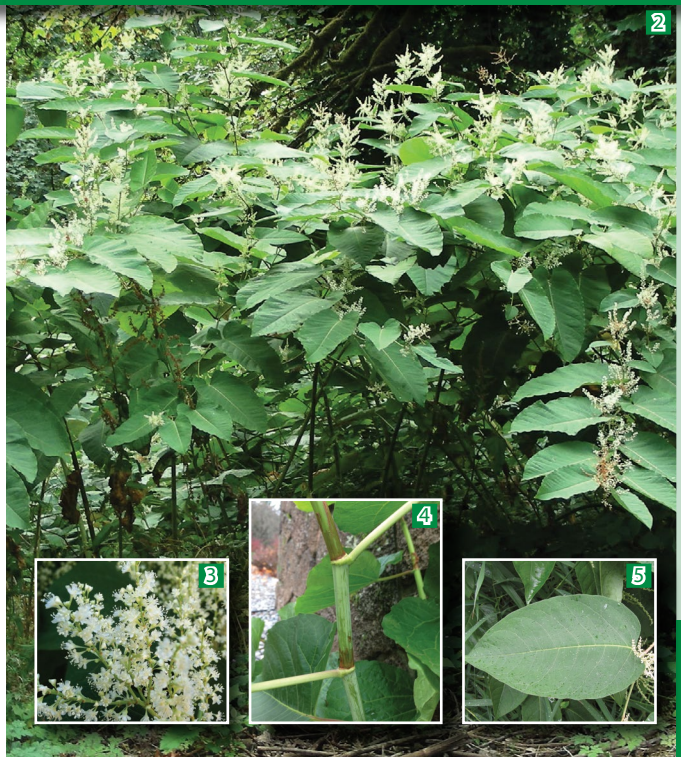
Flowers: Small, cream-colored, in plume-like clusters in leaf axils and at stem tips. Blooms late summer through early fall.

Fruit: Seeds, when present, are $^{1}/_{8}$ inch wide, brown, shiny, and triangular. Present in fall.

Notes: Found mainly along waterways, roads, gardens, and disturbed areas. Tiny stem and root fragments can easily regenerate into new infestations.

Impacts: Displaces native plant species, especially in riparian areas where stem and root fragments are dislodged by high waters and taken downstream to form new patches. Establishment along streams and rivers leads to increased bank erosion. Decreases shading of streams by outcompeting trees and shrubs and is very difficult to control once established.

1. Tom Huette, Forest Service, bugwood.org
2. Emily Stevenson, CG-CWMA
3. Emily Stevenson, CG-CWMA
4. Emily Stevenson, CG-CWMA
5. Angelica Velazquez, Cowlitz County NWCB



Kochia

Kochia scoparia

General: Annual, growing 3 to 7 feet tall with a taproot reaching 16 feet.

Leaves: Alternate, lance-shaped, ½ to 2-inch long leaves grow on round, slender, sometimes hairy, reddish stems. Upper surface of leaf is usually smooth while lower surface is usually covered with soft hairs. Leaf blades have 3 to 5 prominent veins.

Flowers: Inconspicuous, green flowers grow in clusters in upper leaf axils and form short, dense, bracted spikes. Blooms early summer to first frost.

Fruit: Fruit typically has 5 knob-like lobes or short, horizontal wings. The seed is wedge-shaped, dull brown, slightly ribbed and approximately 1/16 inch long.

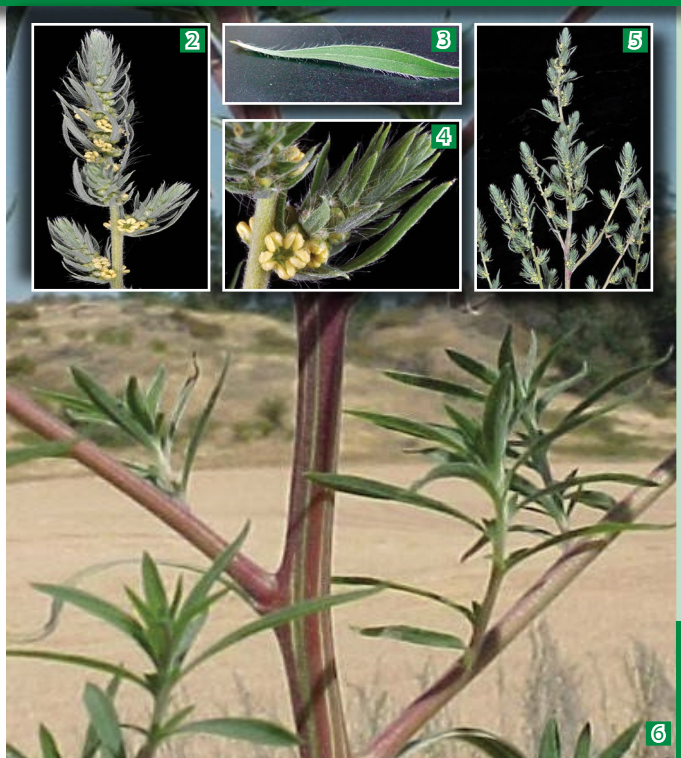
Notes: Although occasionally grazed by livestock, kochia sometimes contains high nitrate levels and can be toxic.

Impacts: Spread by seed, kochia invades open areas and disturbed sites, displaces native vegetation, and degrades croplands. Drought tolerant and resistant to some herbicides.

Photo Credits

1. Sue Winterowd, Stevens County NWCB
2. Gerald D. Carr
3. Sue Winterowd, Stevens County NWCB
4. Gerald D. Carr
5. Gerald D. Carr
6. Sue Winterowd, Stevens County NWCB

Forbs



Leafy Spurge

Euphorbia esula

Photo Credits
1. Gerald D. Carr
2. Anna Lyon, Okanogan County
3. WA Noxious Weed Control Board
4. Gerald D. Carr
5. WA Noxious Weed Control Board
6. Gerald D. Carr

Forbs

General: Herbaceous perennial, growing to 3 feet tall.

Leaves: Alternate, narrow, 1 to 4 inches long with smooth margins on a single stem.

Flowers: Yellow-green, inconspicuous flowers in clusters surrounded by similarly colored heart-shaped bracts. Blooms May and June.

Fruit: Nearly smooth capsule separates into three, single-seeded cells. Seeds are oblong, grayish to purple. Capsule explodes when dry, projecting seeds up to 15 feet. Seeds can be viable in the soil for up to 8 years.

Notes: Leaves and stem produce a white latex sap that can cause severe blistering on the skin and blindness if it comes in contact with the eye. It can also irritate the digestive tract of humans and some livestock if ingested and can result in death.

Impacts: Reproduces by seed and clonal colonies are formed from an extensive system of deep, creeping roots. Displaces native vegetation and degrades valuable habitat in dry forests and rangelands.

Mediterranean Sage

Salvia aethiopis

Photo Credits
1. Gerald D. Carr
2. Sarah Callaghan
3. Sue Winterowd, Stevens County NWCB
4. Sue Winterowd, Stevens County NWCB
5. Gerald D. Carr

Forbs

General: Herbaceous biennial or sometimes a short-lived perennial growing 2 to 3 feet tall. It appears as a rosette in the first year, then bolts and flowers in the second growing season. Stems and leaves are covered with dense, felt-like, white hairs, giving it a silvery green appearance.

Leaves: Mostly basal, lobed leaves are 2 to 12 inches long and aromatic when crushed. Upper leaves are smaller and clasp directly to a hairy stem.

Flowers: White to yellowish flowers are whorled on multi-branched stems with a pair of bracts beneath each whorl. Flowers are 2-lipped. Blooms June to August.

Fruit: Each flower produces four smooth, dark-veined, brown nutlets.

Notes: Meadow (*Salvia pratensis*) and clary (*S. sclarea*) sages resemble Mediterranean sage, but usually have blue or purple flowers and are more coarsely hairy. Not palatable to grazers.

Impacts: Invades dry, open areas, including meadows, pastures, and rangelands. One plant may produce thousands of seeds and easily spreads by tumbling in the wind.

Musk Thistle

Carduus nutans

General: Taprooted biennial or winter annual grows to 6 feet tall.

Leaves: Alternate, spiny, deeply lobed leaves grow on spiny winged stems. Dark green with light green midrib. Glabrous to sparsely hairy.

Flowers: Large, reddish-purple flowerheads with broad, purplish-green bracts at the base, grow singly and nod when mature. Blooms June to September.

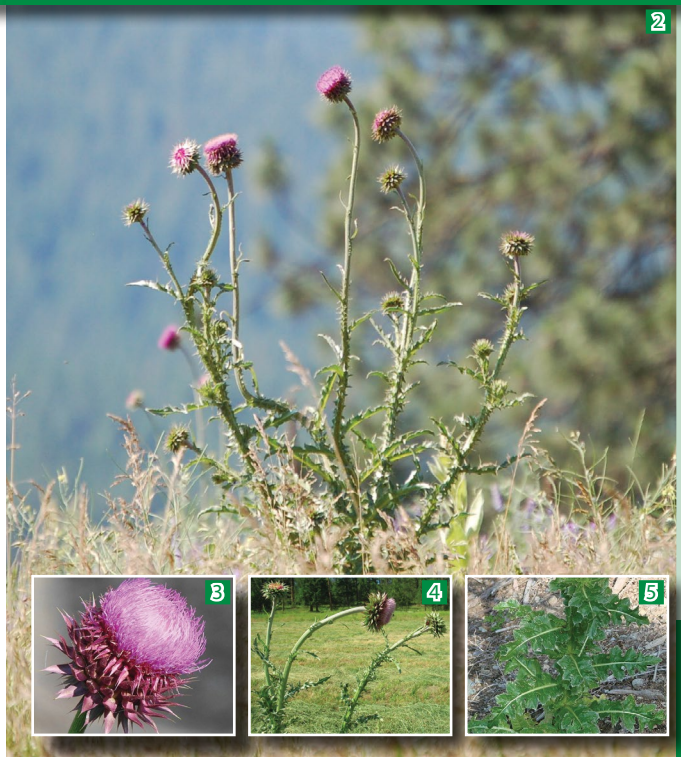
Fruit: Shiny, yellowish-brown, 3⁄16 inch long, with a plume of white, hair-like fibers.

Notes: Also called "nodding thistle." Readily hybridizes with plumeless thistle (*Carduus acanthoides*) and plants with intermediate characteristics may be found where their ranges overlap.

Impacts: Grows in dry to moist soil, displacing native vegetation and reducing forage for livestock and wildlife. Spreads by seed. Chemicals from plant material and seeds may inhibit germination and growth of other species.

Photo Credits
1. Gerald D. Carr
2. Sue Winterowd, Stevens County NWCB
3. Craig Althen
4. Sue Winterowd, Stevens County NWCB
5. Craig Althen

Forbs



Orange Hawkweed

Hieracium aurantiacum

Photo Credits
1. Anna Lyon, Okanogan County
2. Sue Winterowd, Stevens County NWCB
3. WA Noxious Weed Control Board
4. Frances Lucero
5. Michael Shephard, Forest Service, bugwood.org

Forbs

General: Perennial forb. Mature plants 12 to 36 inches tall when flowering. Produces mats of rosettes. Spreads by stolons, rhizomes and seed. Stems and leaves exude milky liquid when cut. Able to self-pollinate.

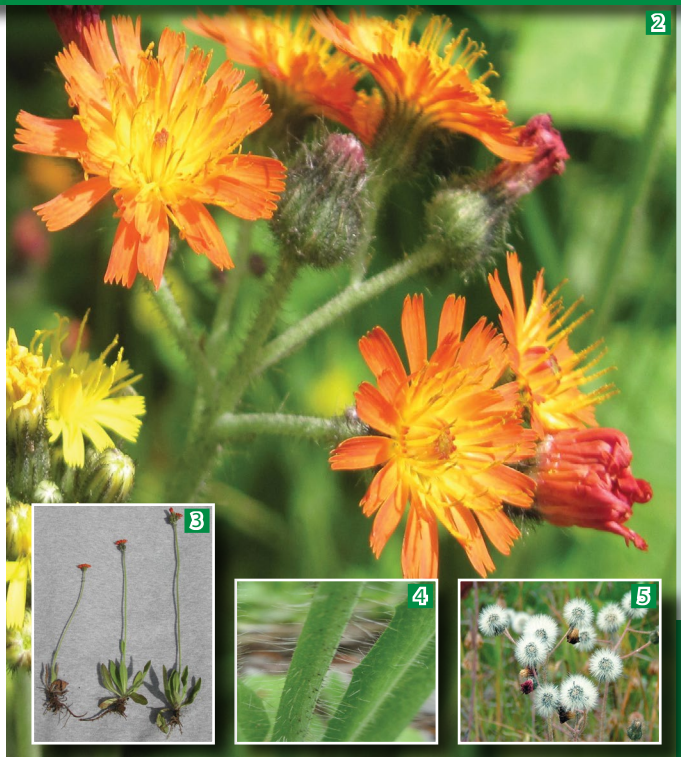
Leaves: Almost exclusively basal. Spatula or lance-shaped, up to 5 inches long. Leaf edges smooth or minutely toothed. Very hairy.

Flowers: Red to orange ray type flowerheads, ½ to 1 inch wide, grow on hairy flower stalks. Flowerheads arranged in clusters of 5 to 30 at top of typically leafless, hairy stem.

Fruit: 12 to 50 tiny seeds per flowerhead. Seedheads similar to dandelion. Individual seeds dark brown or black, cylindrical, elongated, barbed, and bristled.

Notes: Found primarily in forest meadows and openings, pastures, lawns, and roadsides. Several invasive and native yellow hawkweeds are present in the Pacific Northwest and can be difficult to tell apart.

Impacts: Invasive hawkweeds dominate sites by outcompeting other species and by releasing chemicals into the soil that inhibit other plants' growth. They thrive in moist, sunny areas but can tolerate shade. Wilderness meadows in the Pacific Northwest are especially at risk of invasion.



Plumeless Thistle

Carduus acanthoides

General: Taprooted biennial or winter annual grows to 8 feet tall.

Leaves: Sparsely hairy, prickly leaves grow alternately on spiny winged, glabrous to lightly woolly stems.

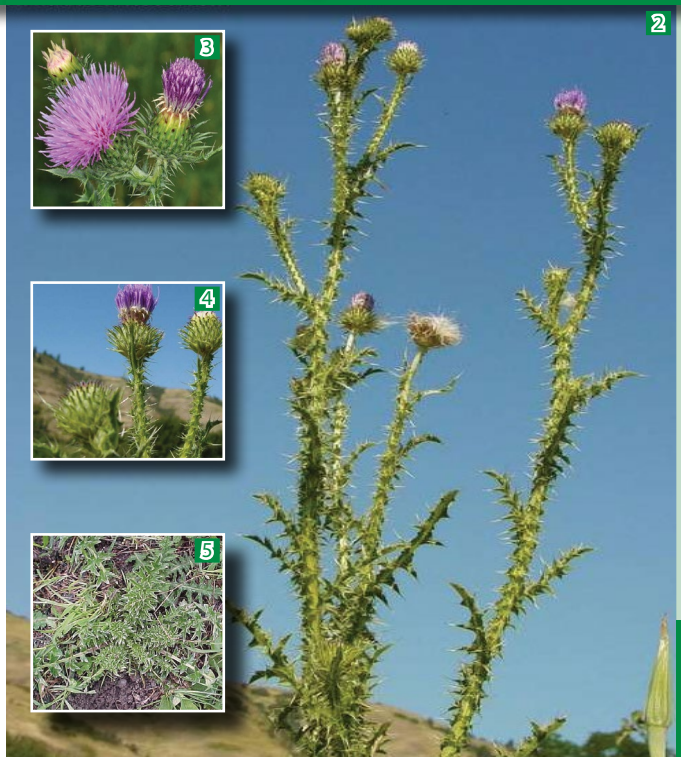
Flowers: Flowerheads composed of rose-purple flowers have narrow, hairy bracts at their bases. Grow singly or in clusters. Blooms May to August.

Fruits: Faint, longitudinal striped, glossy brown, 1/16-inch long achene holds a single seed.

Notes: Readily hybridizes with musk thistle (*Carduus nutans*) and plants with intermediate characteristics may be found where their ranges overlap. Resembles Canada thistle (*Cirsium arvense*), a perennial with creeping roots and a smooth stem.

Impacts: Invades pastures and rangelands with dry, well-drained soils. Reduces native vegetation and habitat. One plant may produce over 1,500 seeds, which are viable for multiple years.

Photo Credits
1. Craig Althen
2. Richard Old, xidservices.com
3. Robert L. Carr
4. Richard Old, xidservices.com
5. Sue Winterowd, Stevens County NWCB



Poison Hemlock

Conium maculatum

Photo Credits
1. Angelica Velazquez, Cowlitz County NWCB
2. Sue Winterowd, Stevens County NWCB
3. Angelica Velazquez, Cowlitz County NWCB
4. WA Noxious Weed Control Board
5. Emily Stevenson, CG-CWMA

Forbs

General: Biennial from the parsley family. Grows 6 to 8 feet tall, occasionally reaching 10 feet tall.

Leaves: Fern-like, dark, glossy-green leaves grow on a smooth, hollow stem with purple blotches. Finely divided in leaflets, ⅛ to ¼ inch long. Lower leaves grow on long stalks that clasp the stem; upper leaves on short stalks.

Flowers: Small, white, 5-petaled flowers grow on stalks in 4-inch, umbrella-shaped clusters. Blooms April to July.

Fruit: Light brown, ribbed, and concave paired seeds, ⅛ inch long.

Notes: All plant parts are extremely toxic and deadly to humans and livestock when ingested. Contact dermatitis can occur if handled and long-term inhalation of the toxic vapors is poisonous. Dead canes remain toxic for up to three years. Crushed foliage has a strong musty odor. Can be confused with wild carrot (*Daucus carota*), as with many other members of the parsley family that resemble it.

Impacts: Reproduces by seed and can tolerate poorly-drained soils. Occurs in a variety of places, including fields, riparian areas, roadsides, and other disturbed, moist sites.

Pokeweed

Phytolacca americana

General: Perennial forb, 2 to 8 feet tall. Smooth, stout, purplish stem that branches extensively. Large, fleshy, white taproot.

Leaves: Egg-shaped, alternate on stem with smooth edges. Up to 12 inches long and 4 inches wide. Hairless.

Flowers: White or green. Form in elongated clusters that hang from branches in early summer.

Fruit: Hanging clusters of distinct, deep purple berries with crimson juice. Fruits present mid-summer to late fall.

Notes: Every part of pokeweed is poisonous with the root and leaves being the most toxic. The plant's berries have been shown to cause vomiting, spasms, and even death in humans. Resprouts from any remaining root fragments. Found mostly in yards, gardens, and waste areas in our region.

Impacts: Public health risk. Displaces native vegetation. The large taproot can grow to the size of a bowling ball, making it very difficult to eradicate.

Photo Credits

1. Richard Old, xidservices.com
2. Richard Old, xidservices.com
3. Nate Woodard
4. Richard Old, xidservices.com
5. Richard Old, xidservices.com

Policeman's Helmet

Impatiens glandulifera

General: Herbaceous, upright annual grows 3 to 10 feet tall.

Leaves: Oblong to egg-shaped, serrated leaves are alternate, opposite, or whorled on smooth, hairless, hollow, purple or reddish tinged stems.

Flowers: Resembling an old-fashioned English policeman's helmet. White, pink, or purple flowers with five petals and a short, curved spur. Blooms June to October.

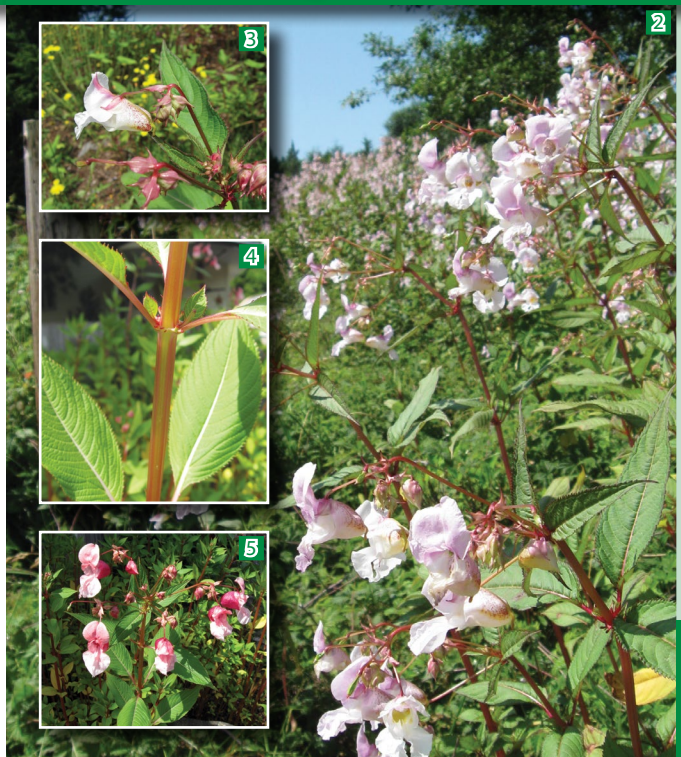
Fruit: Elongated, five-chambered capsule. When touched, mature seedpods split open and eject seeds up to 20 feet.

Notes: Spreads by seed.

Impacts: Invades riparian areas and moist forests and displaces native vegetation. A single plant can produce up to 800 seeds, which are viable for 18 months or more and can germinate under water. Easily spreads down waterways.

Photo Credits

1. Angelica Velazquez, Cowlitz County NWCB
2. Angelica Velazquez, Cowlitz County NWCB
3. Angelica Velazquez, Cowlitz County NWCB
4. Angelica Velazquez, Cowlitz County NWCB
5. Angelica Velazquez, Cowlitz County NWCB



Purple Loosestrife

Lythrum salicaria

General: Herbaceous perennial grows up to 10 feet tall with up to 50 stems per plant. Upright stems are 4 to 6 sided. Spreads by seeds and rhizomes. Well-developed taproot. Can establish in massive thickets in shallow standing water and in moist areas.

Leaves: Downy, lance-shaped; rounded or heart-shaped at the base. Whorled or opposite and stalkless with smooth margins.

Flowers: Numerous, showy, pink to purple with 5 to 7 petals on a long, upright spike. Blooms July to September.

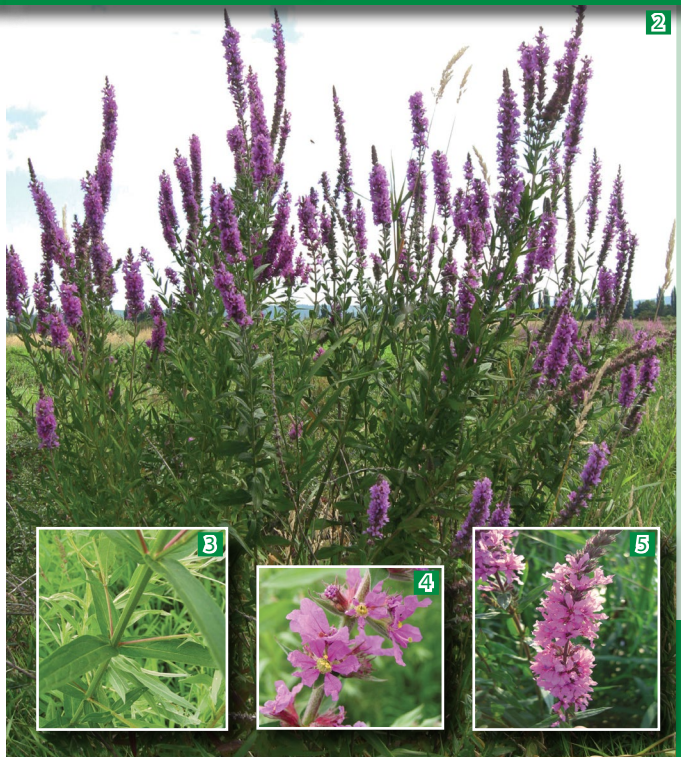
Fruit: Numerous, sand grain size seeds. Seeds present and dispersed in fall.

Notes: Typically favors moist sites like wetlands, ponds, stream banks, and marshy areas. However, it is beginning to inhabit drier sites particularly around agricultural pastures and fields.

Impacts: Plant easily spreads by its roots or from over 2 million seeds produced by one plant. Crowds out native, marsh vegetation required by wildlife for food and shelter. Decreased waterfowl and songbird production has been well documented in heavily infested marshes.

Photo Credits

1. Lisa Scott, South Okanagan Similkameen Invasive Plant Society
2. Angelica Velazquez, Cowlitz County NWCB
3. Emily Stevenson, CG-CWMA
4. Emily Stevenson, CG-CWMA
5. WA Noxious Weed Control Board



Rush Skeletonweed

Chondrilla juncea

General: Herbaceous perennial grows 1 to 4 feet tall. Coarse, downward-pointing, brown hairs on lower 4 to 6 inches of the stem; almost no leaves. Extensive aerial branching. Well-developed taproot. Spreads by seed and root fragments.

Leaves: Sharply lobed, hairless leaves form a basal rosette (similar to dandelion) that withers as the flower stem develops. Other leaves on the stem are narrow and inconspicuous.

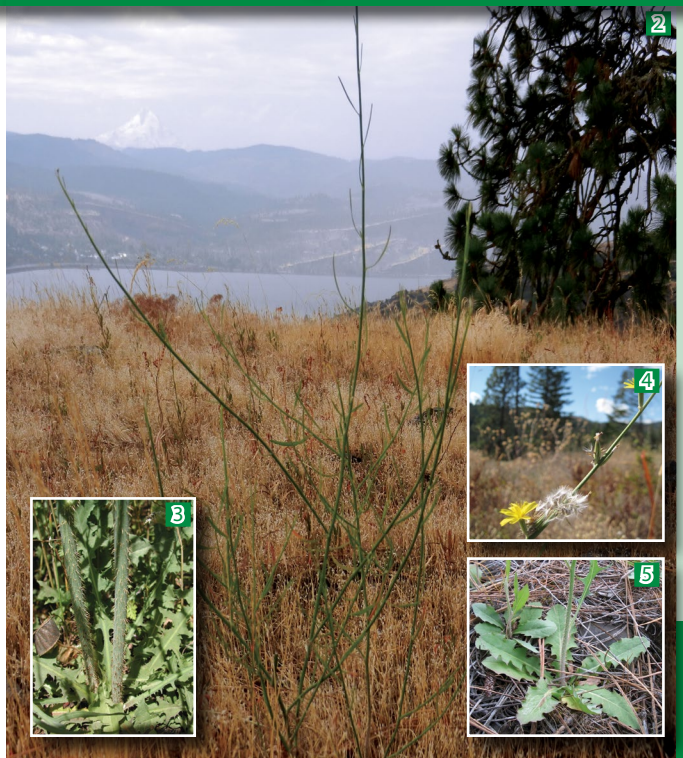
Flowers: Yellow flowerheads ¾ inch in diameter with 7 to 15 flowers. Flowerheads are produced near the ends of stems, either individually or in groups of 2 to 5. Blooms July to September.

Fruit: Seeds ⅛ inch long with slender beaked tops, bearing numerous fine bristles that aid in dispersal by wind.

Notes: The leaves, stems, and roots exude a milky sap when cut or broken. Found along roadsides and disturbed areas in sand, gravel, and shallow bedrock soils.

Impacts: Mature plants can produce 1,500 to 20,000 seeds. Aggressively invades range or croplands. Displaces native plant species and reduces forage for livestock and wildlife.

1. Danielle Blevins, Grant County NWCB
2. Emily Stevenson, CG-CWMA
3. WA Noxious Weed Control Board
4. Sue Winterowd, Stevens County NWCB
5. Sue Winterowd, Stevens County NWCB



Scotch Thistle

Onopordum acanthium

General: Biennial, or sometimes a perennial, grows to 12 feet tall.

Leaves: First year forms a rosette of spiny, woolly-gray leaves up to 4 feet wide. In the second year, spiny, woolly leaves are attached to tall, spiny, winged stems. Upper leaves are alternate and coarsely lobed.

Flowers: Many purple flowerheads, 1 to 2 inches in diameter, with spiny bracts at base. Flowerheads occur singly or in clusters of 2 to 7. Blooms July to September.

Fruit: 3⁄16 inch long, tipped with slender, pink to reddish bristles.

Notes: Grows in dry to moist soils and spreads by seed.

Impacts: Invades open fields, pastures and rangelands, displacing native vegetation and habitat and creating impenetrable thickets. A single plant can produce an average of 20,000 to 40,000 seeds that are viable for at least 7 years.

1. Sue Winterowd, Stevens County NWCB
2. Sue Winterowd, Stevens County NWCB
3. Sue Winterowd, Stevens County NWCB
4. Jim Riley
5. Sue Winterowd, Stevens County NWCB

Shiny Geranium

Geranium lucidum

General: Herbaceous, low-growing, winter annual to annual.

Leaves: Shiny green, round to kidney-shaped leaves sparsely covered in stiff hairs are divided into 5 to 7 lobes and grow on red, hairless stems. At the end of the summer, leaves become red and waxy.

Flowers: Small, pink to purple flowers with five petals grow in pairs on little stems. Sepals around the base of the flower are keeled with noticeable cross-ribs and are a key identification trait. Blooms spring to late July.

Fruit: Long, straight, pointed beak. Small, oval seeds are hairless and reddish with a black projection.

Notes: Also known as "shining crane's bill." Resembles the common yard weed called dovefoot geranium (*Geranium molle*). Dovefoot geranium's petals are deeply notched and are very fuzzy. The sepals of dovefoot geranium are smooth and fuzzy and the stems are less red than shiny geranium.

Impacts: Shiny geranium can grow in sun or shade, in disturbed areas, or intact forests. This shallow-rooted plant spreads by a forcefully ejected seed, helping it spread up as well as out from parent plants. With this method, it quickly dominates the landscape and degrades the health of an ecosystem by displacing native vegetation.

1. Gerald D. Carr
2. Justin Bush, Skamania County
3. WA Noxious Weed Control Board
4. WA Noxious Weed Control Board
5. Gerald D. Carr

Wild Four O'clock

Mirabilis nyctaginea

General: Perennial herb, sometimes woody at the base, grows to 4 feet tall. It has a thick, black taproot that can extend downward for two feet. The name refers to the flowers, which open late in the day and whither early the next morning.

Leaves: Waxy and usually hairless, leaves are oppositely arranged, heart-shaped to egg-shaped and 2 to 4 inches long by 1 to 3 inches wide. The lower and middle leaves are attached by a leaf stem and the upper leaves attach directly to an oppositely branched stem.

Flowers: Reddish-lavender flowers with 5 petal-like sepals and no petals grow in clusters of 3 to 5, from a short, hairy flower stalk at the tips of forked branches throughout the summer. A whorl of bracts at the base of each flower enlarge, change color, and help in seed dispersal.

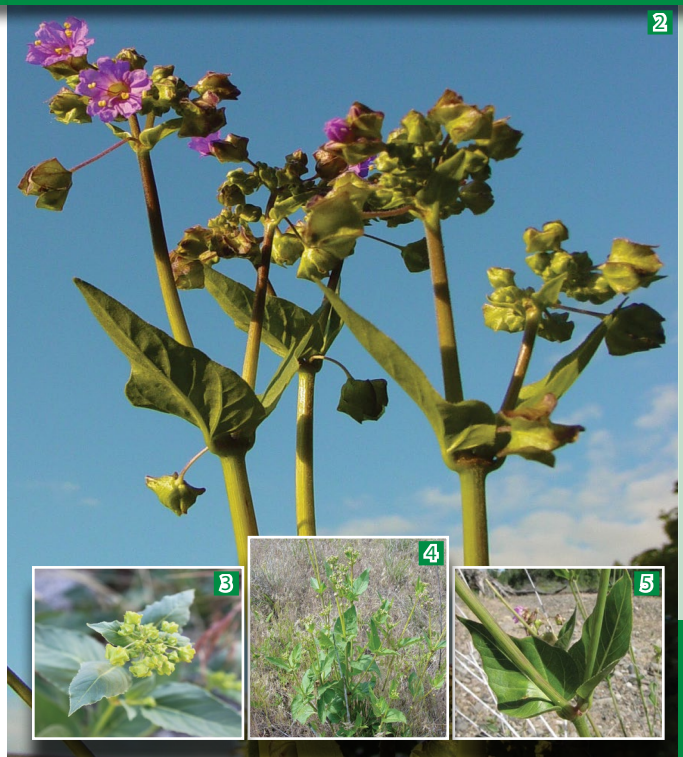
Fruit: Prominently five-ribbed, warty, somewhat hairy, grayish-brown and ⅛ to ¼ inch long.

Notes: Spreads by seed and root fragments.

Impacts: Can quickly establish in a wide range of habitats, in several soil types, displacing native vegetation and degrading habitat.

1. Richard Old, xidservices.com
2. Richard Old, xidservices.com
3. WA Noxious Weed Control Board
4. Richard Old, xidservices.com
5. Jennifer Andreas, WSU Extension

Forbs



Yellow Archangel

Lamiastrum galeobdolon

General: Herbaceous, evergreen perennial. Grows as a dense, trailing mat. Can grow upright to 12 inches tall. Spreads by seed, stem fragments, and rooting at nodes.

Leaves: Typically variegated with distinctive silvery-gray markings. Opposite, oval, hairy, coarsely-toothed edges. Oils in leaves have distinct odor. Square stems.

Flowers: Small, yellow, and hooded, growing in clusters around stem from leaf axils. Flowers April to June.

Fruit: Brown, numerous, and inconspicuous.

Notes: Can grow in a wide range of soil, water, and shade conditions, preferring partial to full shade.

Impacts: Rapidly forms a dense mat, similar to English ivy, outcompeting and smothering native plants. Grows as a groundcover, but can also grow as a low climbing vine. Often growing in residential settings, it can quickly invade forested areas and streambanks.

Photo Credits

1. Jeff McMillian, Almost Eden Plants
2. Richard Old, xidservices.com
3. Richard Old, xidservices.com
4. Jeff McMillian, Almost Eden Plants
5. WA Noxious Weed Control Board

Yellow Flag Iris

Iris pseudacorus

General: Perennial, growing 3 to 5 feet tall in large clumps.

Leaves: Long, flattened, and sword-like leaves fold around stem like a fan at base.

Flowers: Showy, yellow flowers, growing on branched flower stems, 1 to 5 feet tall.

Fruit: Large, green capsules are three-angled and up to 4 inches long with disk-like, flattened seeds.

Notes: The only yellow aquatic iris. Toxic to humans and animals when a certain amount of plant material is ingested.

Impacts: Spreads by lateral growth of rhizomes. Found in riparian areas, lakes, ponds, and irrigation ditches. Flow in these areas is severely restricted and native riparian vegetation is displaced, therefore degrading aquatic habitat.

Photo Credits
1. Cyndi Soliz, Skamania County
2. WA Noxious Weed Control Board
3. Lisa Scott, South Okanagan Similkameen Invasive Plant Society
4. Heath Keirstead, Benton SWCD
5. Sue Winterowd, Stevens County NWCB

Yellow-flowered Hawkweeds

Hieracium spp.

Photo Credits
1. Sue Winterowd, Stevens County NWCB
2. Robert L. Carr
3. Angelica Velazquez, Cowlitz County NWCB
4. Angelica Velazquez, Cowlitz County NWCB
5. Robert L. Carr
6. Richard Old, xidservices.com

General: Perennial forbs. Mature plants 8 to 36 inches tall when flowering. Produces mats of rosettes. Spreads by stolons, rhizomes, and/or seed. Stems and leaves exude milky liquid when cut. Able to self-pollinate.

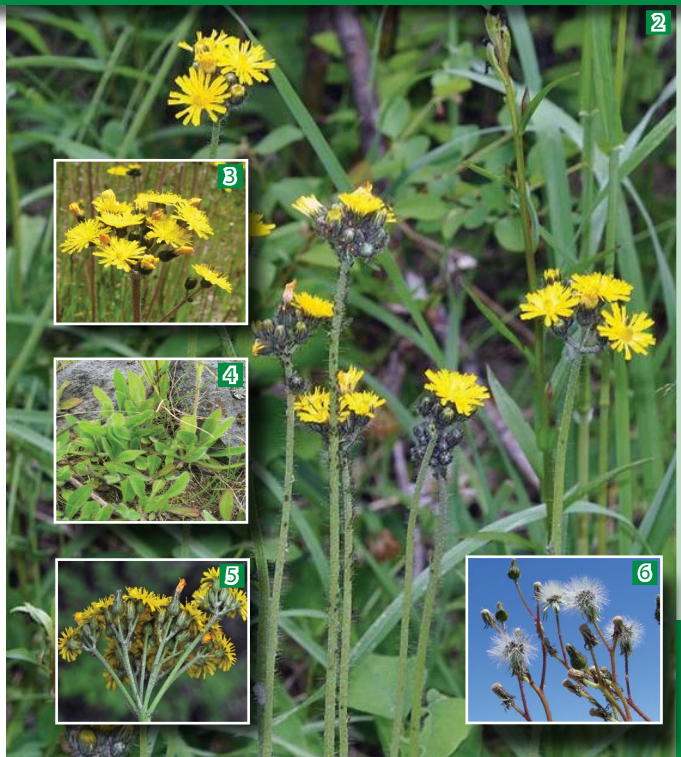
Leaves: Lance-shaped to broadly elliptical basal leaves, sometimes present at flowering. Stem leaves less common on most species.

Flowers: Yellow, dandelion-like flowerheads, clustered at tips of hairy, erect stem. Up to 30 flowerheads per stem. Flowers June to July at lower elevations.

Fruit: Many tiny seeds per flower. Seeds arranged in starburst-shaped clusters and have bristles (pappus) on one end of the seed. Individual seeds ribbed and dark.

Notes: Invasive and native hawkweeds are very similar. Invasive hawkweeds tend to form continuous patches of groundcover whereas native hawkweeds do not. For positive ID, consult a technical flora resource or contact a professional botanist.

Impacts: Invasive hawkweeds exude chemicals into soil, inhibiting other plants' growth. They thrive in moist, sunny areas, but can tolerate some shade. They invade grasslands, pastures, lawns, and roadsides; wilderness meadows in the Pacific Northwest are especially at risk.



Yellow & Purple Starthistle

Centaurea solstitialis & C. calcitrapa

General: Annual or biennial; spreads by seed. Grows 1 to 4 feet tall. Rigid stems are extensively branched. Foliage may be dull green to gray and covered in woolly hairs.

Leaves: Rosette and lower stem leaves are deeply lobed. Upper stem leaves are narrow and undivided. Purple starthistle rosettes have spines in center.

Flowers: Yellow or purple flowerheads, respectively. Sharp spines around 1 inch long surround base.

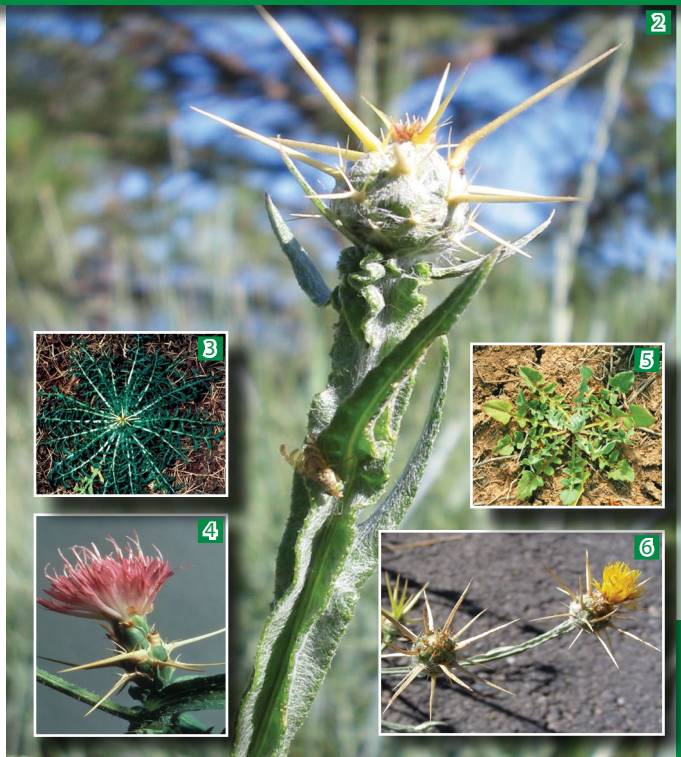
Fruit: Seeds less than ¼ inch long. Yellow starthistle seeds are creamy-tan to dark brown and may have plumes. Purple starthistle seeds are tan and have no plumes.

Notes: Both plants are extremely competitive and have the ability to adapt to a variety of climatic conditions. Yellow starthistle is toxic to livestock, causing "chewing disease" in horses.

Impacts: Thrives in grasslands, rangelands, pastures, roadsides, and disturbed areas. Reduces land value, native plant diversity, wildlife forage, and recreational opportunities.

Photo Credits

1. Emily Stevenson, CG-CWMA
2. Sue Winterowd, Stevens County NWCB
3. Photographer unknown
4. WA Noxious Weed Control Board
5. Steve Dewey, Utah State University, bugwood.org
6. Emily Stevenson, CG-CWMA



False Brome

Brachypodium sylvaticum

General: Bright green/lime bunchgrass growing 12 to 46 inches tall in large clumps. Spreads by seed. Grows in sun and shade, and in moist to dry soil. Self pollinating.

Leaves: Broad (¼ to ½ inch wide), flat, droopy leaf blades bright green in color. Remain vibrant after most other grasses and native forbs have withered. Distinct hairs cover all parts of plant giving plant a velvety feel. Visible hairs protrude from the edge of the leaf as well as leaf surfaces.

Flowers: Tiny flowers in spikelets. Spikelets hairy, 5 to 10 per stem. Present only for a very short period in early summer. Have the appearance of a very small dog bone. Spikelets typically have little to no stalk connecting them to the main stem.

Fruit: Small seeds from spikelets in summer.

Notes: False brome has two characteristics that help distinguish it from other grasses. The first is the small hairs or "fuzz" giving the plant its hairy look and velvety feel. Second, the spikelets are typically stalkless; they are attached directly to the stem.

Impacts: False brome can dominate the groundcover in both densely forested and open habitats, driving out native plants and creating a monoculture. It also has low forage value.

Photo Credits
1. © Bruce Newhouse
2. Emily Stevenson, CG-CWMA
3. WA Noxious Weed Control Board
4. Jenny Getty
5. WA Noxious Weed Control Board
6. Emily Stevenson, CG-CWMA

Common Reed

Phragmites australis ssp. *australis*

General: Large, perennial, clonal grass with woody, hollow stems growing to 13 feet tall.

Leaves: Green to gray-green, lance-shaped, up to 16 inches long and 1½ inches wide with an open sheath.

Flowers: Dense, silky, brownish-purple plumes, reaching 16 inches long. Blooms July to October.

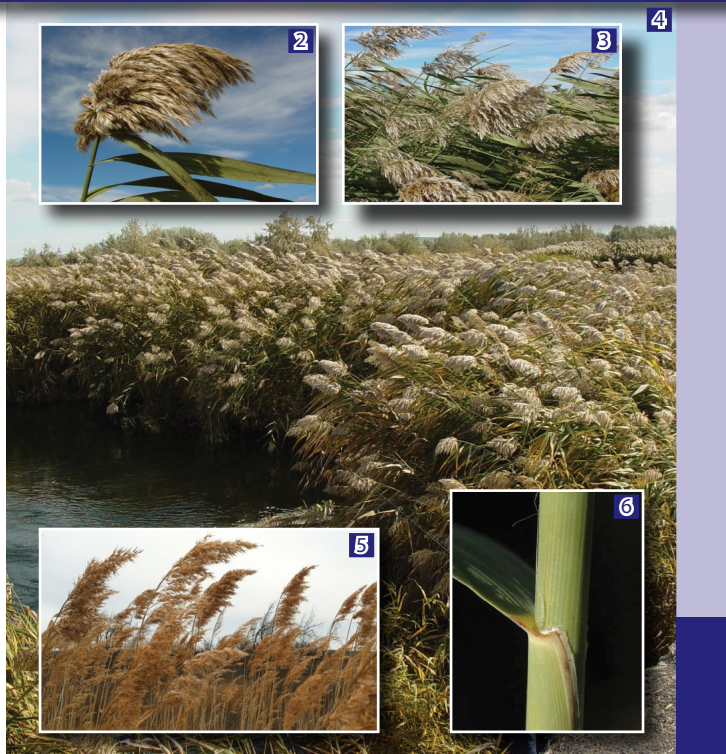
Fruit: Flower plumes appear fluffy when seeds mature and take on a gray sheen.

Notes: Common reed is very similar to the native *Phragmites australis* subsp. *americanus*, which grows in the same habitat. Differences are not easily distinguished between the two and therefore a positive ID by a technical flora resource or a professional botanist may be necessary.

Impacts: Spreads by seed, an extensive, creeping rhizome network and stem fragments. Degrades valuable wetland habitat by quickly forming dense colonies in freshwater and saline wetlands that alter hydrology and displace native vegetation.

Photo Credits

1. Mark Stevenson, Oregon Parks & Recreation
2. Richard Old, xidservices.com
3. Richard Old, xidservices.com
4. Richard Old, xidservices.com
5. Mark Stevenson, Oregon Parks & Recreation
6. Ben Legler, University of Washington



Spurge Laurel

Daphne laureola

General: Evergreen, shade tolerant shrub growing to 4 feet tall. Mature plants have many shoots originating near base. Branches green, turning gray with age. Spreads by roots or seed.

Leaves: Glossy, oblong, dark green, thick with smooth edges. Appear spirally arranged; crowded at branch tips. 2 to 5 inches long, ½ to 2 inches wide. Leaves lighter underneath. Leathery.

Flowers: Small and inconspicuous, yellow-green with orange stamens, and fragrant. Blooms from late January to May. Grows in clusters of 2 to 10 at leaf bases, near the tops of stems.

Fruit: Egg-shaped, fleshy berries start out green and ripen to black in early summer. Each fruit contains 1 seed.

Notes: **All parts of this plant are toxic.** Do not handle without protection.

Impacts: Can grow in the understory of our native forests where it can rapidly colonize areas to form dense stands and outcompete native vegetation. Once established, spurge laurel is difficult to manage. Birds spread seed randomly, making detection very difficult and allowing spurge laurel to spread throughout natural areas unchecked.

Photo Credits

1. Gerald D. Carr
2. Emily Stevenson, CG-CWMA
3. Kris Stenshoel, Eugene Water and Electric Board
4. Eve Dixon, Jefferson County
5. WA Noxious Weed Control Board
6. © Bruce Newhouse

Shrubs

Kudzu

Pueraria montana var. *lobata*

General: Fast-growing, deciduous, perennial vine. Grows up to a foot per day, completely covering vegetation and structures. Vines 1 to 4 inches thick. When young, stems are covered with stiff bronze hairs, becoming woody when mature. Roots are fleshy with a taproot up to 12 feet deep.

Leaves: First true leaves covered with short, bronze-colored hairs and arranged oppositely. Subsequent leaves with three leaflets on short petiole and arranged alternately on the stem. Individual leaflets 3 to 4 inches long and oval or lobed with hairy edges.

Flowers: Reddish to purple, pea-like flowers in clusters 4 to 8 inches long with a grapefruit-like smell. Blooms mid-summer through very early fall.

Fruit: A flattened, hairy, brown pod, approximately 1½ to 2 inches long, contains many kidney bean-shaped seeds.

Notes: Annual control costs in the United States are over $50 million and rising.

Impacts: Kudzu is so aggressive that it covers and smothers all other plants in its path, resulting in massive monocultures eliminating native species and natural diversity.

1. David J. Moorhead, University of Georgia, bugwood.org
2. Kerry Britton, Forest Service, bugwood.org
3. Chuck Bargeron, University of Georgia, bugwood.org
4. WA Noxious Weed Control Board

Brazilian Elodea

Egeria densa

General: Submersed aquatic perennial. Rooted. Reproduces vegetatively from stem fragments.

Leaves: Bright to dark green leaves with minutely toothed edges, (magnification required to see teeth). Whorls of 4 (up to 6) closely spaced in the upper section, and more widely spaced whorls of 3 at the stem base.

Flowers: Fragrant, three-petalled, white flowers with yellow centers grow from slender stalks attached at the base of leaf whorls and float on the water surface. Two or three flower stalks may arise from the same whorl. Male and female flowers are produced on separate plants. Blooms late spring to fall.

Fruit: Only male plants are found in the United States and therefore no fruit is produced. Fruit is berry-like in its native range.

Notes: May be confused with hydrilla (*Hydrilla verticillata*) another invasive with tubers and leaves in whorls of 5. The native species, common waterweed (*Elodea canadensis*) and Nuttall's waterweed (*E. nuttallii*) have smaller leaves in whorls of 3. For positive ID, consult a technical flora resource or contact a professional botanist.

Impacts: Found in ponds, lakes, and slow-moving streams. Used as an aquarium plant for many years. Its dense stands negatively impact fish and aquatic habitats and clog boat propellers and pumps.

Photo Credits

1. Ben Legler, University of Washington
2. Gerald D. Carr
3. Ben Legler, University of Washington
4. Gerald D. Carr
5. Gerald D. Carr

Flowering Rush

Butomus umbellatus

General: Submersed or emergent freshwater perennial. Emergent plants can be up to 5 feet tall.

Leaves: Narrow, sword-shaped, fleshy leaves can grow below, above, or floating on the water and can be up to 9 feet long. The cross-section of the leaves is triangular at the base with a distinctive midrib as the leaf flattens toward the tip.

Flowers: A single, terminal, umbrella-like cluster (0.8 to 1 inch in diameter) of 20 to 50 white-pink flowers grows on a stalk up to 3 feet tall. Flowers have 3 large, pink petals, with 3 pink sepals under the petals. Blooms June to August.

Fruits: Leathery, beaked follicles. Plants in the Pacific Northwest rarely produce seed. Produces pea-sized bulbils (vegetative reproductive structures) at the base of the flower stalks and roots. Rhizomes of some varieties produce buds.

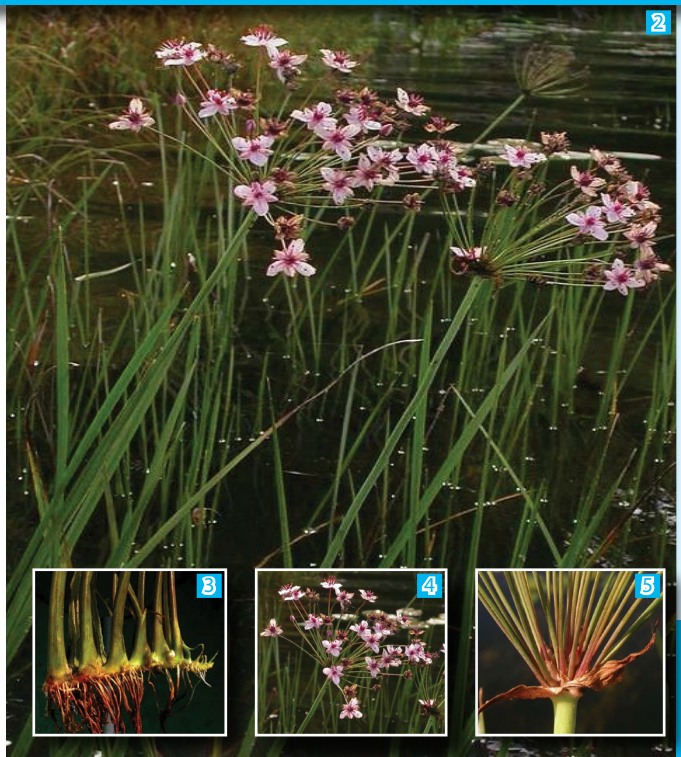
Notes: Resembles bulrushes and true rushes when not in flower, but is distinguishable by its triangular leaves. Can grow on the shoreline with stiff, upright leaves or submerged with flexible, floating leaves in water up to 20 feet deep.

Impacts: Rapidly colonizes shorelines, slow-moving water bodies, and wetland areas, displacing native vegetation and wetland habitat and negatively impacting recreational activities. Muskrats, waterfowl, water currents, and boating disperse buds, seeds, rhizome fragments, and bulbils.

Photo Credits

1. Ben Legler, University of Washington
2. Ben Legler, University of Washington
3. Ben Legler, University of Washington
4. Ben Legler, University of Washington
5. Ben Legler, University of Washington

Aquatics



Hydrilla

Hydrilla verticillata

Photo Credits
1. King County, DNRP
2. Thomas E. Woolf, Idaho Department of Agriculture
3. Thomas E. Woolf, Idaho Department of Agriculture
4. Laura Line, University of Florida/IFAS Center for Aquatic and Invasive Plants
5. Richard Old, xidservices.com

General: Submersed perennial.

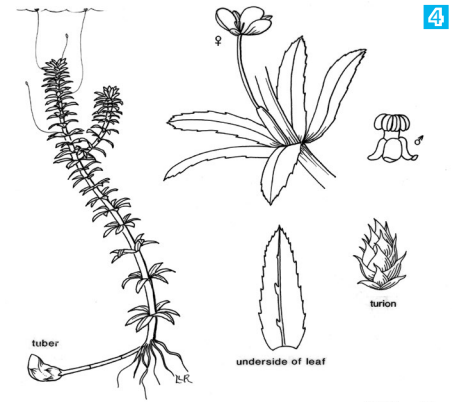
Leaves: Bright green leaves with sharply toothed margins that are generally visible without magnification. The reddish midrib often has small spines. Grows in whorls of 3 to 10 along the stem, although 5 leaves per whorl is most common. Whorls can be bushy and close, or widely spaced along the stem.

Flowers: Male and female flowers grow on the same plant on the variety that grows in the northern states. The female flower has 3 small, translucent, white petals, 1/16 to 5/16 inch wide and 1/32 to 3/16 inch long, and is attached to the stem tip by a slender stalk. Male flowers are produced in the leaf axils, but detach and become free-floating. Blooms mid to late summer.

Fruit: Small, spindle-shaped fruits are rarely seen.

Notes: May be confused with Brazilian elodea (*Egeria densa*), another invasive with leaves in whorls of 4. Common waterweed (*Elodea canadensis*), a native species, has smaller leaves in whorls of 3. For positive ID, consult a technical flora resource or contact a professional botanist.

Impacts: Grows in streams, canals, lakes, and ponds and spreads by fragments, tubers, and scaly, overwintering buds called turions. Dense and profuse growth in almost any environment quickly displaces our native aquatic species and degrades critical habitat.



Parrotfeather

Myriophyllum aquaticum

General: Rooted perennial that sprawls across the water surface with leaves rising above the water like a forest of tiny fir trees.

Leaves: Grayish-green, emergent leaves are feather-like but stiff in whorls of 3 to 6 around the stem. Finely divided. Underwater leaves are limp or absent.

Flowers: Inconspicuous, white, female flowers with 4 sepals found individually on short stalks in leaf axils. Male flowers grow on separate plants but are not known to occur in the United States.

Fruits: Only female plants occur in North America, therefore fruits are not produced here.

Notes: Grows in sluggish waters of lakes and ponds and in slow-moving streams. This freshwater, South American aquatic is rooted to the bottom and can spread by rhizomes and fragments.

Impacts: Dense matting shades the water column, altering the aquatic food web by changing the oxygen concentrations and the pH of water. It is also unpalatable to most grazers.

1. Elaine Stewart, Metro
2. Ben Legler, University of Washington
3. Gerald D. Carr
4. Ben Legler, University of Washington

Aquatics

Water Primrose

Ludwigia hexapetala

General: Perennial herb. Rooted in shallow water. Sprawling mat floats with leaves and flowers emergent.

Leaves: Short-stalked, oval to lance-shaped (willow-like) alternate leaves are slightly hairy and grow on floating or erect, often hairy, robust stems.

Flowers: Showy yellow flowers with 5 petals (15 to 30mm) and 5 sepals (8 to 19mm) grow on stalks in leaf axils. Blooms throughout summer.

Fruit: Capsules hang on long stalks (over 2 inches long) and contain many small seeds.

Notes: Similar in appearance to floating primrose-willow (*Ludwigia peploides*), another invasive aquatic species. Both species form a sprawling mat on the water surface, with leaves and flowers emergent. These species are difficult to tell apart, but both should be reported.

Impacts: Grows in margins of lakes, ponds, ditches, and streams. Spreads easily by seed and plant fragments. Forms dense mats of vegetation, shading the water column and altering the aquatic food web by changing the oxygen concentrations and the pH of water. Quickly displaces our native aquatic species and degrades critical habitat.

Photo Credits

1. Jenifer Parsons, Wa Department of Ecology
2. Gerald D. Carr
3. Elaine Stewart, Metro
4. Jenifer Parsons, Wa Department of Ecology

Aquatics

Acknowledgements

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This book is based on the "Weed Watchers EDRR ID Guide for Multnomah County and Sandy River Basin" and the "Western US Invasive Plant EDRR Weed ID Guide."

Front cover: Spotted knapweed (*Centaurea stoebe*) in the Gorge, Marty Hudson, Klickitat County

Many thanks to the following individuals and organizations who helped create this booklet: Justin Bush, Wendy DesCamp, Vern Holm, Jordan Kim, Todd Murray, Lucas Nipp, Jenifer Parsons, Cyndi Soliz, and Emily Stevenson.

2013

Kudzu consuming a southern U.S. forest
Kerry Britton, USDA Forest Service

This weed identification guide was developed to help individuals identify and report the weeds that have been given priority for early detection and rapid response in the Columbia River Gorge. Invasive species are a real threat to our natural resources and recreational opportunites. Thank you for your help in protecting that which defines the Columbia River Gorge!

Thanks for your help in protecting the scenic beauty of the Gorge!

Native wildflowers in the Gorge
Emily Stevenson, CG-CWMA