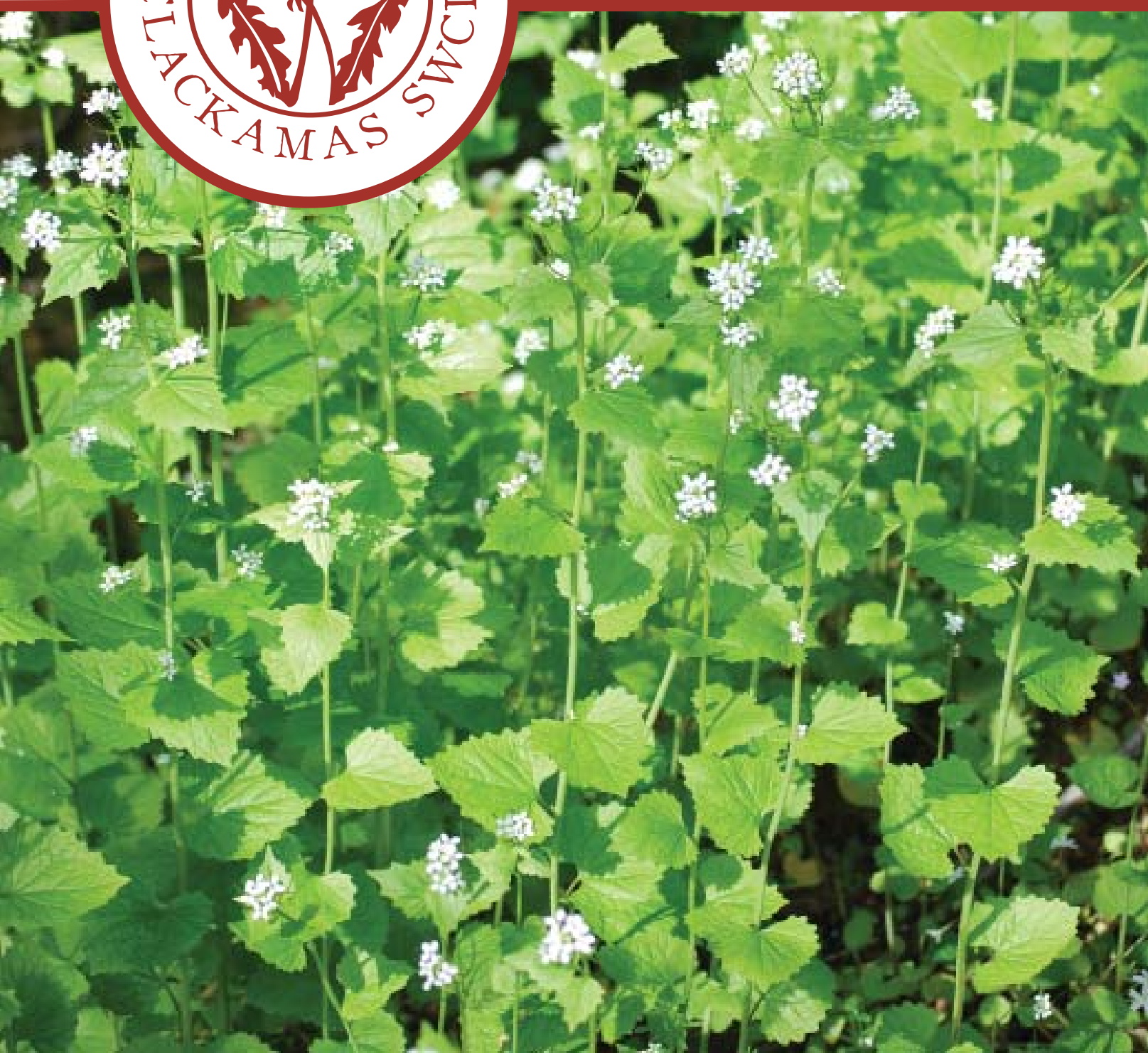
A Field Guide to the Priority Invasive Weeds of Clackamas County

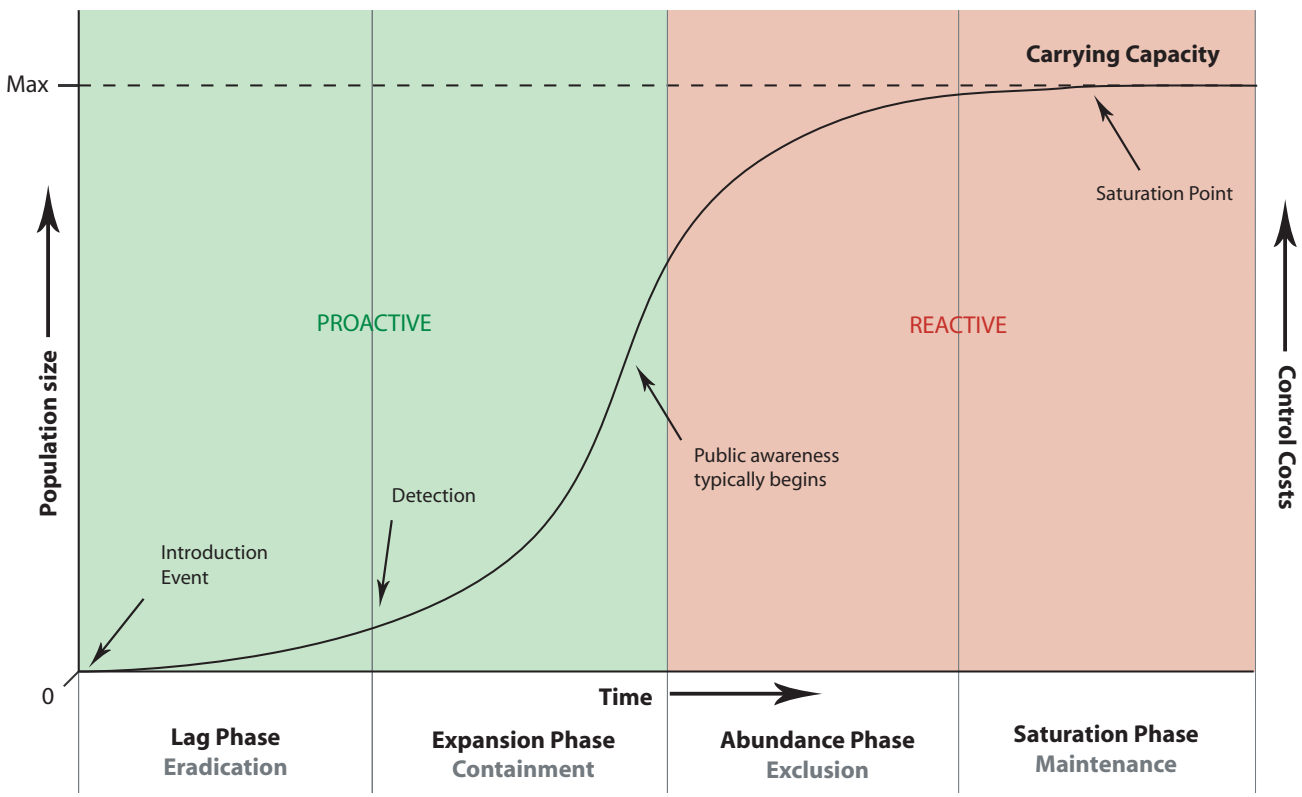
WeedWise
CLACKAMAS SWCD



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. Monitoring can be conducted actively or passively. In active monitoring, an individual visits a site regularly and thoroughly surveys for a particular species or set of species. In passive monitoring, new invasives are found as you do your regular activities such as walking, hiking, or riding in a vehicle. 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.

INVASIVE SPECIES ESTABLISHMENT AND MANAGEMENT CURVE



The WeedWise CEDARS

The Clackamas County Soil & Water Conservation District's WeedWise Program is working to stop these invaders before they become widespread. To support this effort we have developed the Clackamas Early Detection and Reporting System (CEDARS) as a partnership between volunteers, non-profits, and government agencies. The CEDARS brings together volunteers and agency personnel to look for and report priority invasive species throughout Clackamas County. Reports. These infestations are then controlled by the responsible entity to prevent further spread.

This *Field Guide to the Priority Invasive Weeds in Clackamas County* was developed to aid in identifying, detecting and reporting weeds that have been given priority for early detection and rapid response in Clackamas County. Thank you in advance for your commitment to keeping invasive weeds out of our region.

Become a CEDARS Weed Watcher!

The WeedWise program provide free trainings in the effort to prevent new invasive species from becoming established. This effort will not succeed without the support of individuals like you. Contact the WeedWise Program today to learn more about the CEDARS program and to find out what you can do to combat invasives in your neighborhood.

Watch for weeds, but don't spread 'em: Take care not to spread invasive plant seeds or materials as you hike, bike, or boat! Brush off your boots, bike, and dog.

Web Resources

Descriptions and photos of listed noxious weeds in the State of Oregon:

http://www.oregon.gov/ODA/PLANT/WEEDS

Photographs and control information for invasive weeds:

http://www.invasive.org

http://www.cabi.org/isc

General invasive species information and resources:

http://oregoninvasiveshotline.org

http://www.conservationdistrict.org

http://www.opb.org/programs/invasives

http://www.kingcounty.gov/environment/animalsandplants/noxious-weeds.aspx

http://pnwhandbooks.org/weed/

http://www.4countycwma.org

http://www.westerninvasivesnetwork.org

Additional questions? Contact the Conservation District.

Clackamas SWCD WeedWise Program
www.conservationdistrict.org • 503-210-6000
221 Molalla Avenue, Suite 102
Oregon City, OR 97045

WeedWise
CLACKAMAS SWCD

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 that 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. Make a note describing the plant: Flower color, shape and size; leaf shape/size; is the plant hairy, etc.

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

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

Step 2-Report your sightings of priority weeds

There are a two ways to report your priority weeds:

Online: The easiest 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. Please leave a message on the best way to contact you to talk about your sighting.

Phone: If you don't have access to the internet, the second way to report an EDRR sighting is by phone. If your sighting is:

Within Clackamas County, call the Clackamas WeedWise Program at **503-210-6000**.

Outside of Clackamas County call the state invader hotline at **1-866-INVADER**

What We Will Do

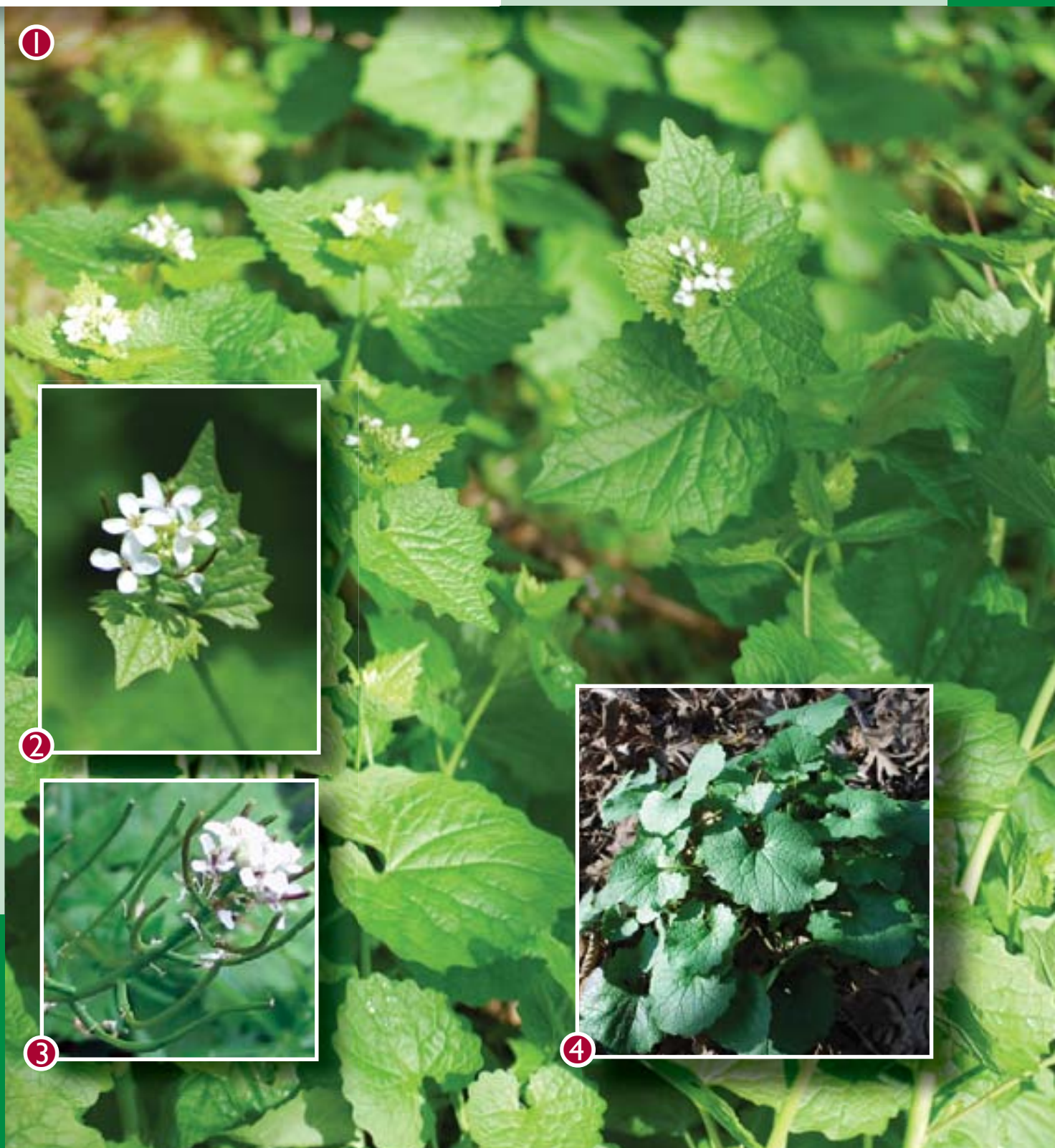
If a priority invasive weed is reported, we will contact the landowner and request permission to visit the reported site. We will then visit the site to verify the species, determine the most effective response, and begin control of the species as soon as possible.

Unfortunately, for some of our more widespread weed species control may be limited to targeted areas or criticals habitats. If such limitations exist for a particular invader, we will work with the landowner to improve management and prevent further spread.

Garlic Mustard

Alliaria petiolata

1. Samuel Leininger, Clackamas SWCD
2. Samuel Leininger, Clackamas SWCD
3. Tom Forney, ODA
4. Samuel Leininger, Clackamas SWCD
5. Jason Dumont, TNC



Garlic Mustard

Alliaria petiolata

5

General: Biennial forb. Rosettes form by late spring in first year, blooms in late spring to early summer in second year. Distinct "S" shaped curve at top of root. Typically 1-3 feet tall, up to 5 feet. Self pollinating.

Leaves: Lower leaves are dark green, kidney shaped, 2-4 inches around, deeply veined. Leaves of young rosettes rounded. Upper stem leaves alternate, sharply toothed, triangular, 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: Seeds form in narrow, green seed pods that originate from the center of the flowers beginning in May and turn brown as the seed matures. Seeds small dark, smooth, football-shaped, ejected from seed pods when mature.

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

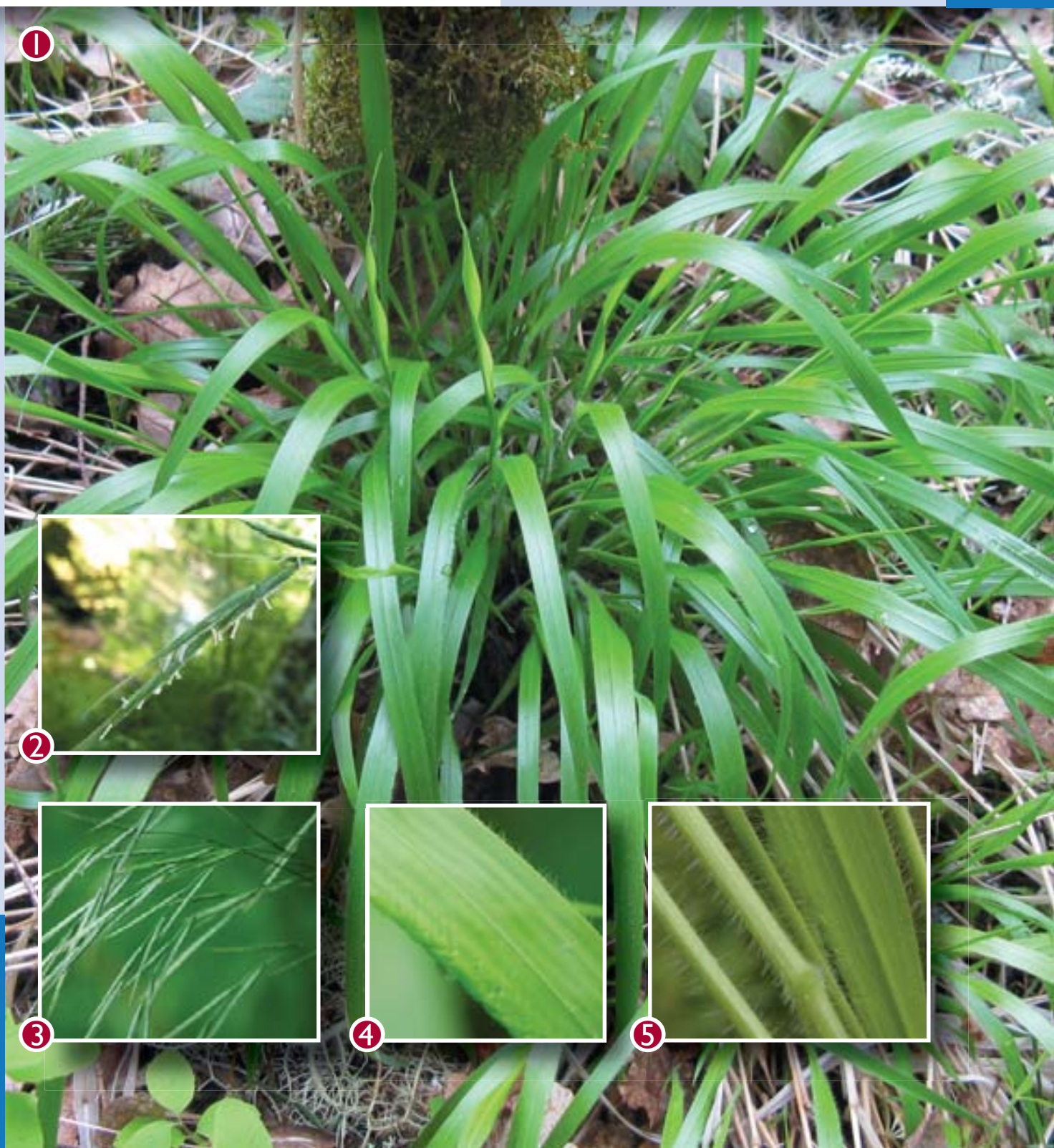
Impacts: Serious threat to native forest understory. Commonly invades roadsides, streamsides, trails, agricultural land, and residential gardens rapidly displacing native species. Root exudes chemicals that inhibit other plants' establishment and growth.

Control may not be available in all locations.

False Brome

Brachypodium sylvaticum

1. Jenny Getty, Mid Fork Willamette Watershed Council
2. Jenny Getty, Mid Fork Willamette Watershed Council
3. Samuel Leininger Clackamas SWCD
4. Samuel Leininger Clackamas SWCD
5. Samuel Leininger Clackamas SWCD
6. Samuel Leininger Clackamas SWCD



False Brome

Brachypodium sylvaticum

6

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

Leaves: Broad (¼-½ inch wide), flat, droopy leaf blades bright green in color. Remain vibrant after most other grasses and natives 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. Hang from hairy spikelets. Present only for a very short period in early summer. Have the appearance of a very small dog bone. Spikelets are directly attached to the flowering stalk.

Fruit: Small seeds develop from spikelets in late summer.

Notes: False brome has two characteristics that when combined 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 completely stalkless; they are attached directly to the seed/flower stem.

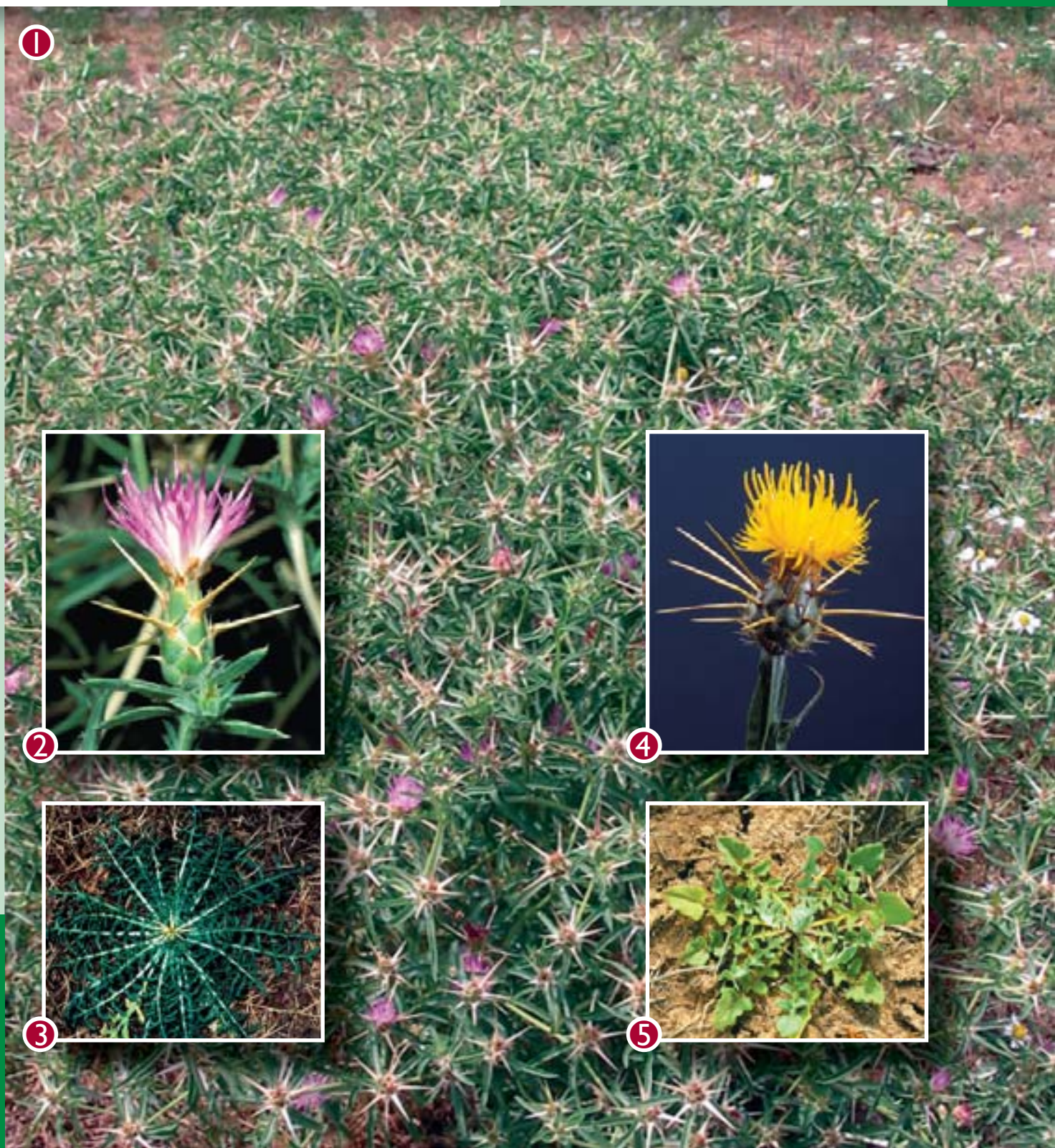
Impacts: False brome can dominate the ground cover in both densely forested and open habitats, driving out native plants and creating a monoculture. It also has low forage value.

Control may not be available in all locations.

Yellow & Purple Starthistle

Centaurea solstitialis & C. calcitrapa

1. Tom Forney, ODA
2. Barry Rice, sarracenia.com
3. Tom Forney, ODA
4. Stephen Ausmus, USDA ARS
5. Steve Dewey, Utah State University
6. Tom Forney, ODA



Yellow & Purple Starthistle

Centaurea solstitialis & C. calcitrapa

6

General: Annual or biennial, spreads by seed. Grows 1 to 4 ft 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 to more than 1 inch long surround base.

Fruit: Seeds less than $^1/_8$ 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.

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

Spurge Laurel

Daphne laureola

1. Samuel Leininger Clackamas SWCD
2. Samuel Leininger Clackamas SWCD
3. Samuel Leininger Clackamas SWCD
4. Samuel Leininger Clackamas SWCD
5. Samuel Leininger Clackamas SWCD
6. Samuel Leininger Clackamas SWCD

Spurge Laurel

Daphne laureola

6

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

Leaves: Glossy, oblong, dark green, thick with smooth edges. Spirally arranged; crowded at branch tips. 2-7 inches long, ½ -2 inches wide. Leaves lighter underneath. Leathery.

Flowers: Small and inconspicuous, yellow-green with orange stamens, unpleasantly fragrant. Bloom from late January to May. Grow in clusters of 5-20 between leaves near the tops of stems.

Fruit: Egg shaped fleshy berries start out green and ripen to black in early summer.

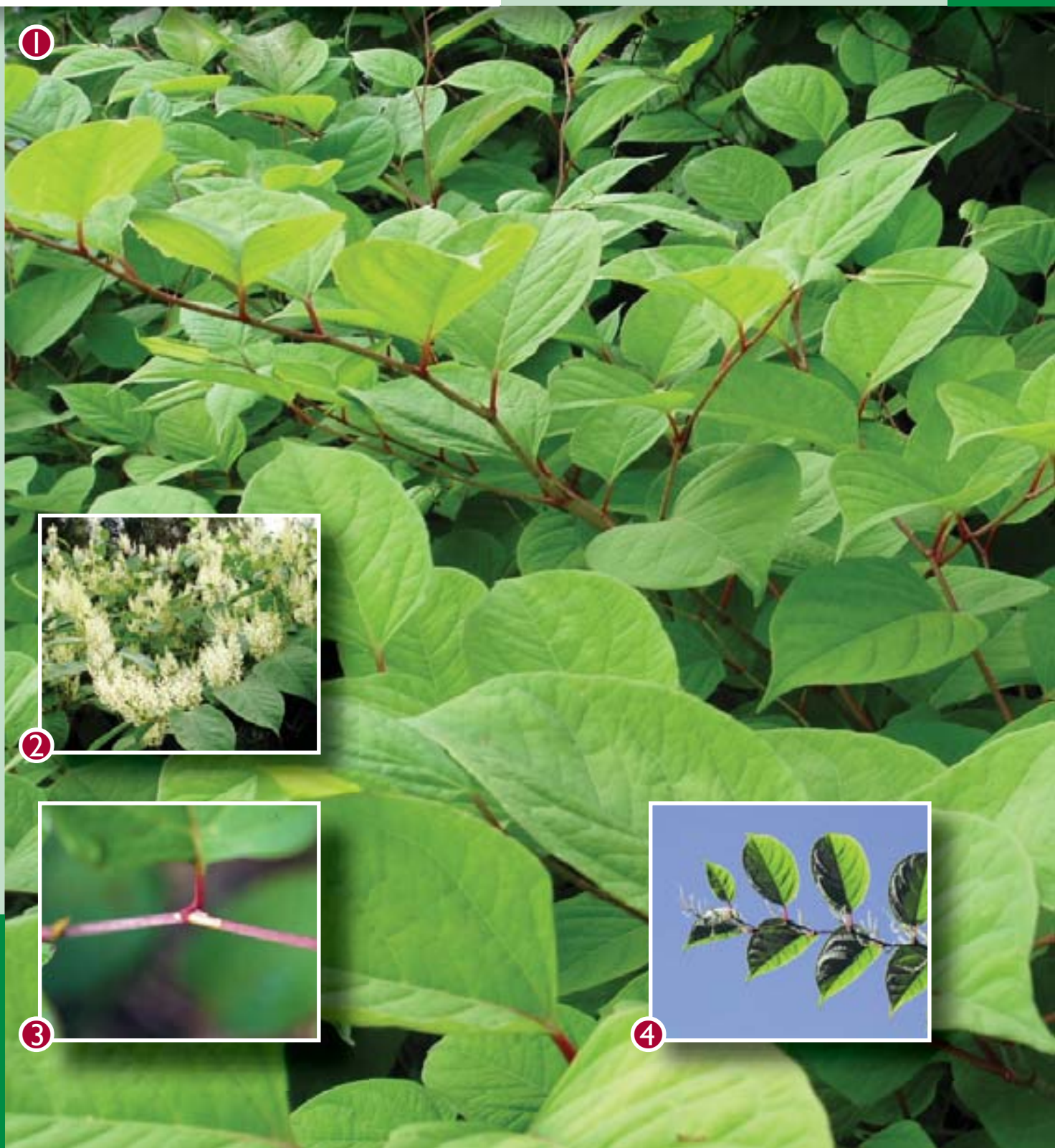
Notes: ***All parts of this plant are toxic.*** Do not handle without protection.

Impacts: Grows in the understory of our native forests where it can rapidly colonize areas to form dense stands and out-compete native vegetation. Once established, spurge laurel is difficult to manage. Birds spread seeds randomly making detection very difficult and allowing spurge laurel to spread throughout natural areas unchecked. Alters soil chemistry.

Knotweed

Fallopia spp.

1. Jan Samanek, State Phytosanitary Administration
2. Jan Samanek, State Phytosanitary Administration
3. Catherine Herms, Ohio State Weed Lab Archive
4. Nanna Borcherdt, Sitka Conservation Society
5. Samuel Leininger, Clackamas SWCD



Knotweed

Fallopia spp.

5

General: Perennial forb. Grows to 12 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 zig-zag pattern. Stems similar in appearance to 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. 2-6 inches long and 2-4 inches wide, with pointed tips. Hairless.

Flowers: Small, cream-colored, in large plume-like clusters at ends of stems. 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 root fragments can easily regenerate into new infestations.

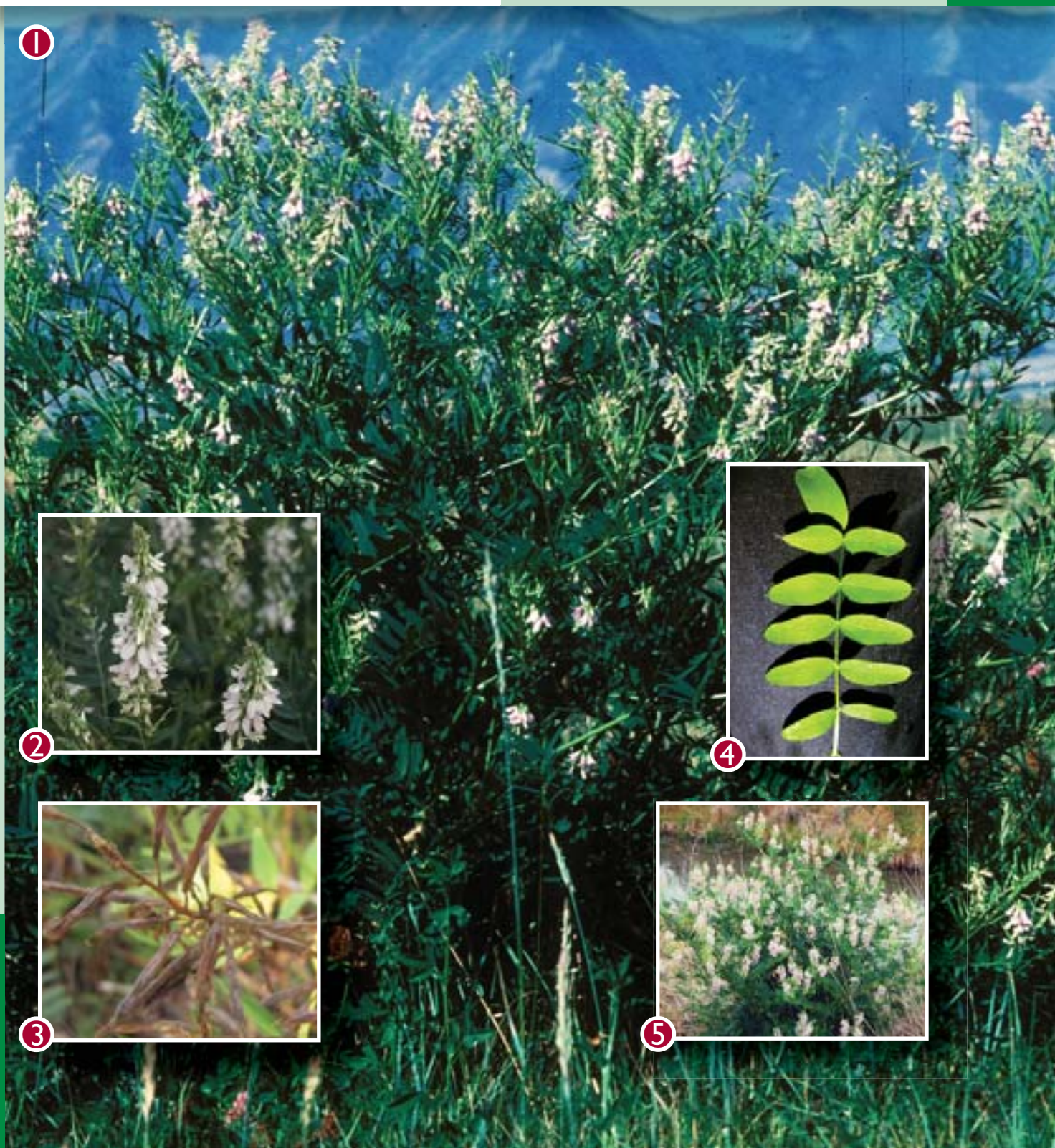
Impacts: Displaces native plant species, especially in riparian areas where root fragments are dislodged by high waters and taken downstream to form new patches. Establishment along streams and rivers can lead to increased bank erosion. Decreases shading of streams and is very difficult to control once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

Control may not be available in all areas.

Goatsrue

Galega officinalis

1. Steve Dewey, Utah State University
2. USDA APHIS PPQ Archive
3. Dominic Maze, City of Portland
4. Dominic Maze, City of Portland
5. Steve Dewey, Utah State University
6. Steve Dewey, Utah State University



Goatsrue

Galega officinalis

6

General: Shrubby herbaceous perennial growing 2 to 6 feet tall. Plants are upright with multiple hollow stems. Goatrue is a deep rooted and long lived perennial. Plants spread by seed and through intentional planting. Goatsrue is federally designated as a noxious weed and is poisonous to livestock.

Leaves: Adult leaves are pinnately compound in 6-12 pairs on hollow stems. Leaflets are oval in shape ending in a fine point.

Flowers: Purple to white, pea-like flowers are arranged in terminal racemes. Flowers bloom from June to July.

Fruit: Seeds develop in short pods holding 2 to 10 seeds. A single mature plant may produce as many as 15,000 pods per year. Seeds may remain viable for up to 10 years.

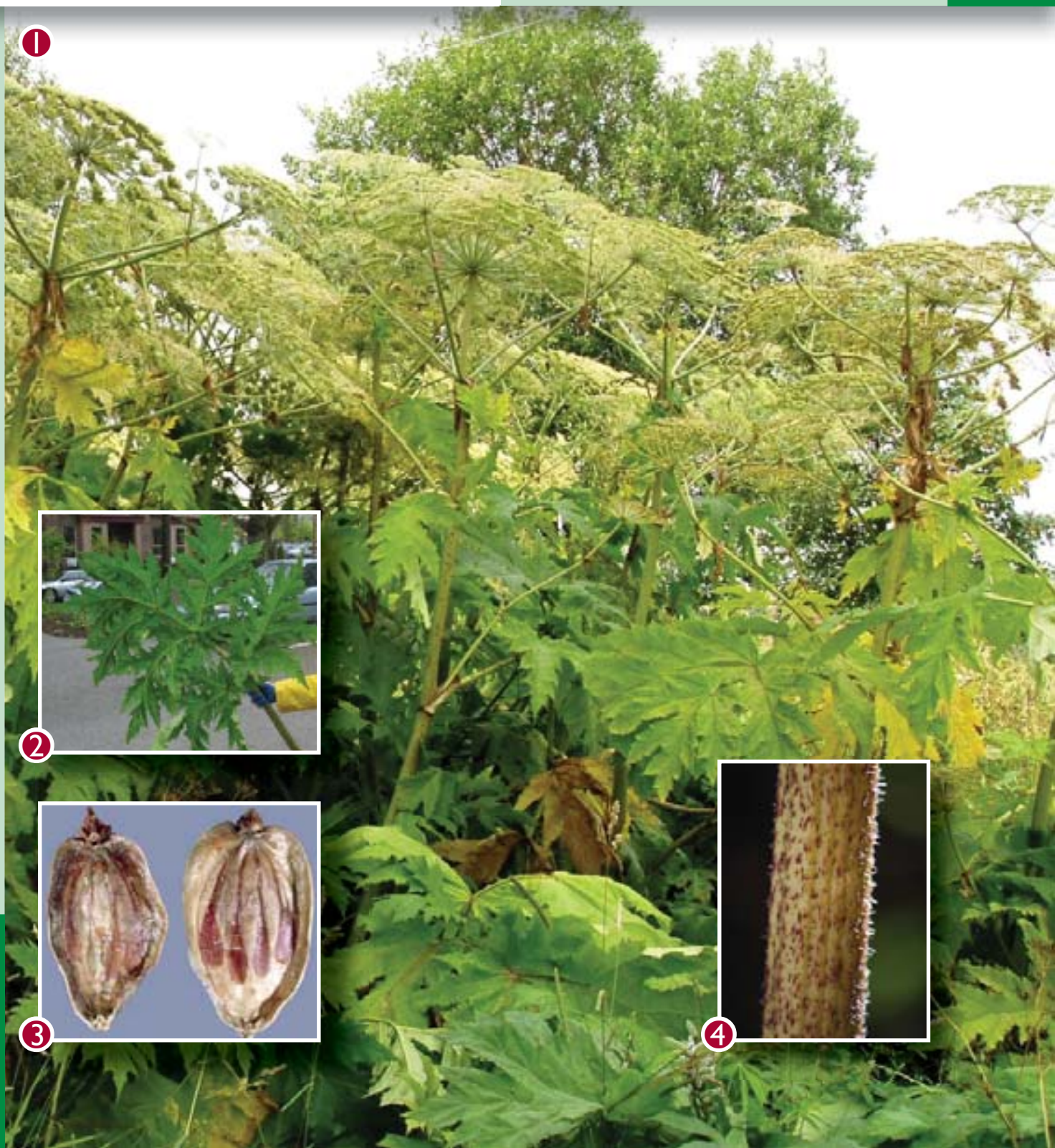
Notes: Typically favors moist disturbed sites like wetlands, ponds, stream banks, and marshy areas. Plants resemble common vetch, but are upright and lack tendrils.

Impacts: Goatsrue forms dense thickets and competes with and reduces yields of forage plants. Goatsrue produces a toxin which lowers blood pressure and paralyzes the central nervous system.

Giant Hogweed

Heracleum mantegazzianum

1. Donna R. Ellis, University of Connecticut
2. Lucas Nipp, East Multnomah SWCD
3. USDA APHIS
4. Samuel Leininger, Clackamas SWCD
5. Beth Myers-Shenai, ODA



Giant Hogweed

Heracleum mantegazzianum

5

General: Perennial forb. 10-15 feet tall. In rosette form, up to four feet tall with giant leaves spread wide. Stalk and flower head develop after 2-4 years then plant dies back. Stalks 2-4 inches in diameter, hollow with raised purple blotches and erect hairs.

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

Flowers: Flower head 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 $^{3}/_{8}$ of an inch long. Each plant can produce up to 50,000 seeds.

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

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

Orange Hawkweed

Hieracium aurantiacum

1. Caleb Slemmons, University of Maine
2. Samuel Leininger, Clackamas SWCD
3. Samuel Leininger, Clackamas SWCD
4. Samuel Leininger, Clackamas SWCD
5. Samuel Leininger, Clackamas SWCD
6. Montana Statewide Noxious Weed Awareness and Education Program Archive, MSU

Orange Hawkweed

Hieracium aurantiacum

6

General: Perennial forb. Mature plants 12-36 inches tall when flowering. Produces mats of rosettes. Spreads by stolon, rhizome and seed. Stem exudes milky liquid when cut. Self pollinating.

Leaves: Foliage develop almost exclusively from the base of the plant. Spatula- or lance-shaped, up to 5 inches long. Leaf edges smooth or minutely toothed. Very hairy.

Flowers: Red to orange ray type flowers, ½ to 1 inch wide. Arranged in clusters of 5-30 at top of typically leafless, hairy stem. Black hairs on flower stalks.

Fruit: 12-50 tiny seeds per flower. Seed heads similar to dandelion. Individual seeds dark brown or black, cylindrical, elongated, barbed and bristled.

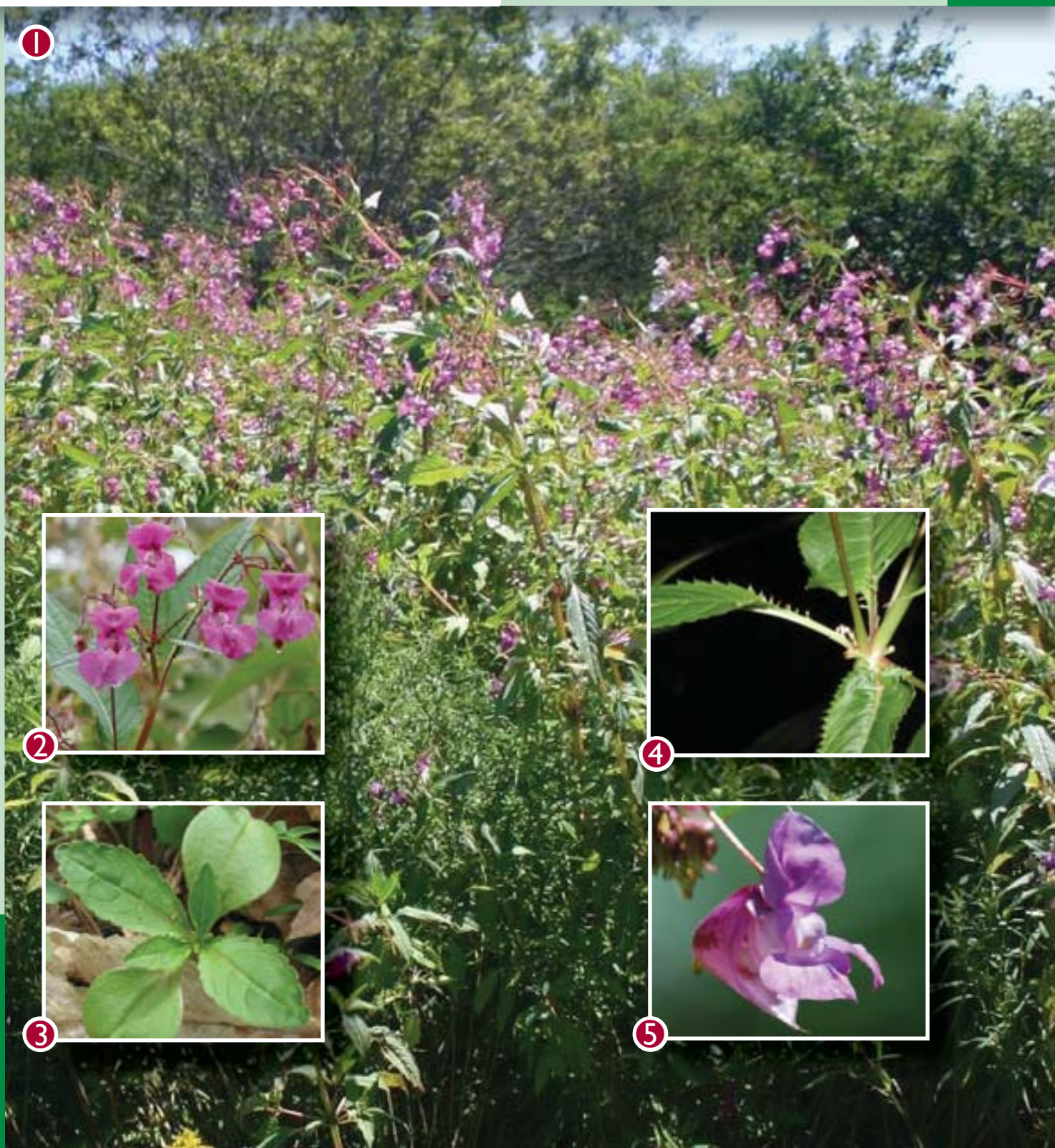
Notes: Found primarily in forest meadows and openings, pastures, lawns, and roadsides. The multiple flowers per stalk can be used to tell hawkweeds from the many look-a likes. Several invasive and native yellow hawkweeds are present in the Pacfic Northwest.

Impacts: Invasive hawkweeds dominate sites by out-competing 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.

Policeman's helmet

Impatiens glandulifera

1. Leslie J. Mehrhoff, University of Connecticut
2. Barbara Tokarska-Guzik, University of Silesia
3. Leslie J. Mehrhoff, University of Connecticut
4. Leslie J. Mehrhoff, University of Connecticut
5. Samuel Leininger, Clackamas SWCD
6. Samuel Leininger, Clackamas SWCD



Policeman's Helmet

Impatiens glandulifera

6

General: Tall herbaceous annual growing up to 10 feet in height. Plants are upright with hollow purple tinged stems. Stems have swollen nodes and glands.

Leaves: Adult leaves are oval shaped with toothed margins. The leaves are opposite or in whorls of three.

Flowers: Spurred five part flowers are white to pink to red to purple arranged in sparse clusters. Flowers bloom from June to September.

Fruit: Seeds develop in exploding capsules dispersing seeds more than 20 feet away from parent plants. A single mature plant may produce as many as 2500 seeds per year.

Notes: Typically favors moist disturbed sites like stream banks, and marshy areas. Plants are large and conspicuous and grow well in full sun and partial shade.

Impacts: Policeman's helmet forms dense thickets and competes with native vegetation. As an annual it is a poor stabilizer of soils, particularly during winter months, which can lead to increased erosion particularly in streamsides where it invades.

Purple Loosestrife

Lythrum salicaria

1. Eric Coombs, ODA
2. Samuel Leininger, Clackamas SWCD
3. Linda Wilson, University of Idaho
4. Joseph M. DiTomaso, UC Davis
5. Steve Dewey, Utah State University
6. Samuel Leininger, Clackamas SWCD

Purple Loosestrife

Lythrum salicaria

6

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

Leaves: Downy, lance-shaped; round- or heart-shaped at the base. Stalkless. Whorled or opposite with smooth margins.

Flowers: Numerous, showy, pink to purple with 5-7 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. Several large stands established in the Portland area are currently being treated using biological control agents.

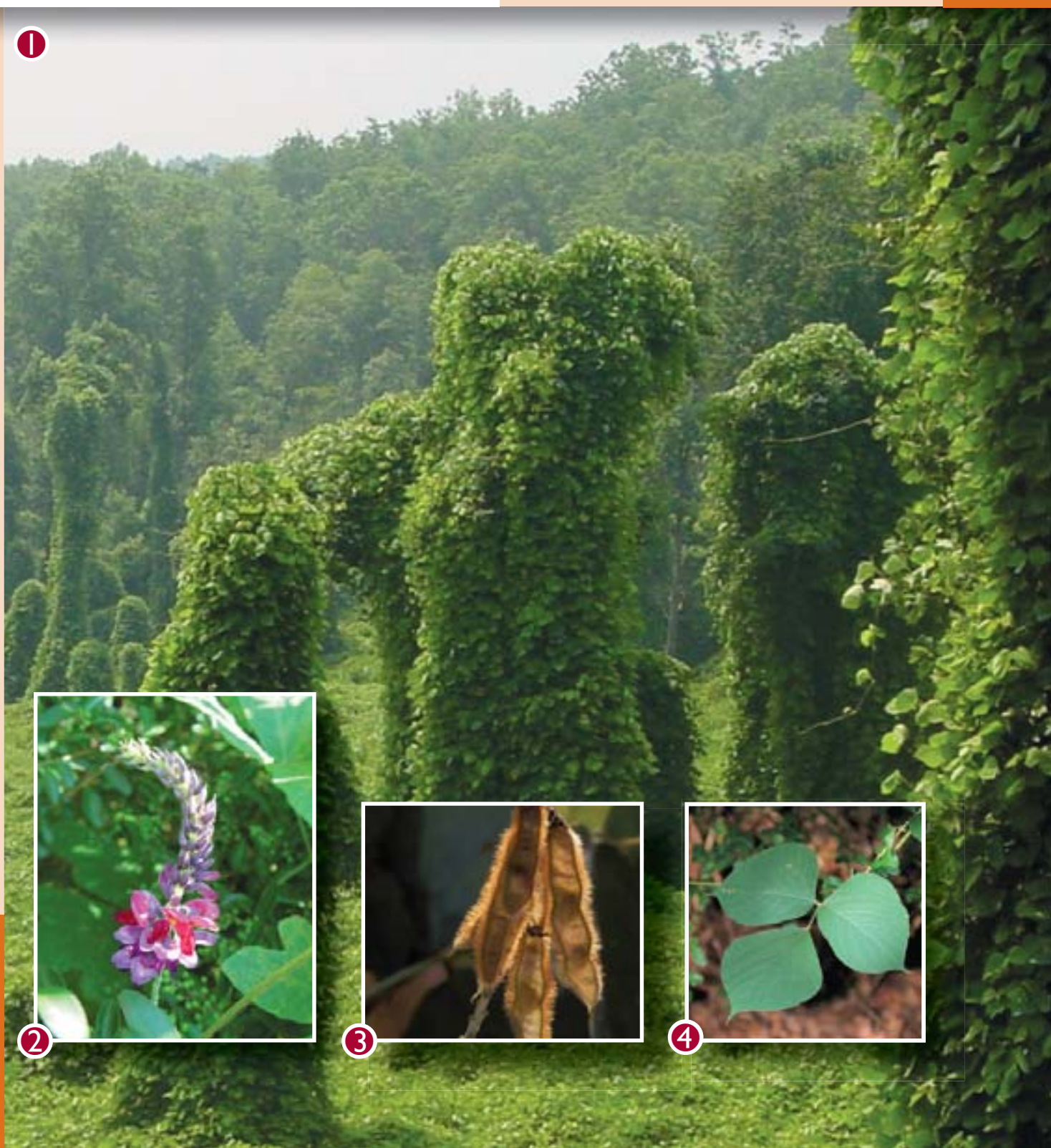
Impacts: Crowds out native marsh vegetation required by wildlife for food and shelter. Decreased waterfowl and songbird production has been well-documented in heavily infested marshes.

Control may not be available in all areas.

Kudzu

Pueraria lobata

1. Kerry Britton, USDA Forest Service
2. Chuck Bargeron, University of Georgia
3. James H. Miller & Ted Bodner, Southern Weed Science Society
4. James Miller, USDA Forest Service
5. Jill M. Swearingen, National Park Service



Kudzu

Pueraria lobata

5

General: Fast-growing, deciduous, perennial vine. Grows up to a foot per day, completely covering vegetation and structures. Vines 1-4 inches thick. When young, stems are covered with stiff bronze hairs, becoming woody when mature. Roots are fleshy with 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 3-4 inches long and deeply lobed with hairy edges.

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

Fruit: A flattened brown pod, approximately 1 ½ to 2 inches long, contains many kidney bean-shaped seeds.

Notes: Annual control costs in the U.S. are over $50 million dollars 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.

Gorse

Ulex europaeus

1. Forest & Kim Starr, Starr Environmental,
2. Forest & Kim Starr, Starr Environmental,
3. Bruce Newhouse
4. Forest & Kim Starr, Starr Environmental,
5. Norman E. Rees, USDA ARS
6. Bruce Newhouse

Gorse

Ulex europaeus

6

General: Spiny, evergreen shrub up to 15 feet tall and 30 feet wide. Grows in dense thickets. Branches ridged and hairy; green when young, turning brown with age.

Leaves: When young, leaves alternate and three parted, becoming spine-like, green, ½ to 2 inches long, occurring in whorled clusters.

Flowers: Produces a profusion of yellow pea blossom shaped flowers very similar to Scotch broom in early spring to late summer. Shiny flowers are solitary and often clustered at the ends of branches.

Fruit: Hairy, oblong pods, ½ to 1 inch long, containing two to six seeds. Smooth, shiny, hard, heart-shaped, tiny seeds green to olive in color, turning brown or black when mature. Ejected when seed pods mature.

Notes: Gorse is highly flammable. The spiny leaves are the best way to differentiate gorse from Scotch broom which at all times has non-spiny and typically three-parted leaves.

Impacts: Gorse will grow in dense, impenetrable thickets that exclude native plants and animals and render land useless. It can also increase erosion on steep slopes. Gorse becomes extremely difficult to eradicate once it is established due to its long-lived seed.

Field Notes

Field Notes

Acknowledgements

This booklet is heavily based on the *Weed Watchers EDRR Guide* and the *Western US Invasive Plant EDRR Weed ID Guide*. Many thanks to the following organizations and individuals for their efforts in developing the guides that have served as the foundation for this document.

Weed Watchers EDRR Guide

Christopher Aldassy, Jenny Bieger, Corey Gargano, Jennifer Goodridge, Andru Grimm, Samuel Leininger, Mary Logalbo, Doug Kreuzer, Lucas Nipp, and Tania Siemens

Western US Invasive Plant EDRR Weed ID Guide

Ken Ball, Gary Brown, Shannon Brubaker, Tim Butler, Jo Davis, Tom Forney, Mark Hitchcox, Kathy LeaMaster, Beth Myers-Shenai, Mitch Nelson, and Colin Park

Eric Coombs, Oregon Dept of Agriculture

Together we can prevent the next invasion!

The effort to control invasive species will only be successful with support from everyone. There is too much ground to cover and we need your help! Join others in our area to identify and report the top priority weeds in Clackamas County.

Contact the Clackamas Soil and Water Conservation District's WeedWise Program to learn how you can join in the fight.

This guide covers all of Clackamas County

Clackamas SWCD WeedWise Program
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