



Kootenay BC Timber Sales Invasive Plants

Field Book

April 1, 2016

2016 Reporting Priority of FRPA-listed Invasive Plant Species for TKO Districts				
Species				
English Name	Arrow TSA	Bdry TSA	KL TSA	DRM
Anchusa (Common Bugloss)	YES	YES	YES	YES
Blueweed	YES	YES	YES	YES
Common Tansy	YES		YES	
Field Scabious	YES	YES	YES	YES
Knotweed species	YES	YES		YES
Hoary alyssum	YES			
Leafy Spurge	YES	YES		YES
Marsh Plume Thistle	YES	YES	YES	YES
Perennial Pepperweed	YES	YES	YES	YES
Plumeless Thistle	YES		YES	
Puncture Vine	YES	YES	YES	
Rush Skeletonweed	YES	YES	YES	YES
Scotch Broom	YES	YES	YES	YES
Tansy Ragwort	YES	YES	YES	YES

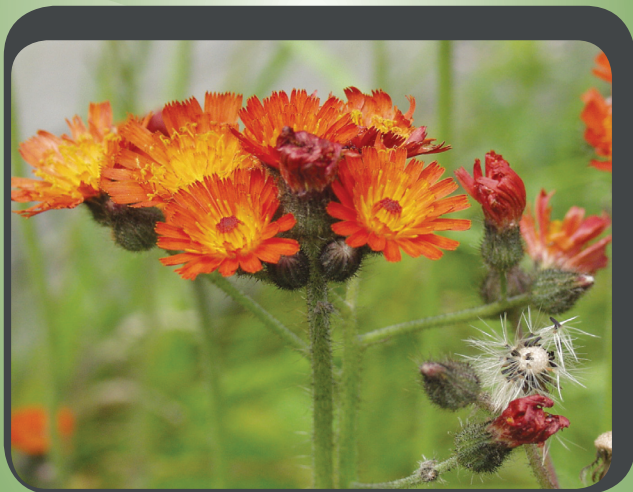
Forest Range and Practices Act

Invasive Plants Identification Field Guide

*For use with Invasive Plants Resource
Stewardship Monitoring Cards*

Version 1.0

June 2008



INTRODUCTION:

The establishment and spread of invasive plants can directly affect many areas and impact many values including biodiversity, water quality, fish habitat, forage quality and quantity, recreational opportunities, soil nutrient and hydrologic cycling, forest regeneration, fire regimes. Numerous invasive plant species require disturbance for their seeds or plant propagules to germinate and grow, and most take advantage and rapidly spread in native plant communities that are under stress

from drought, over-use, trampling, compaction, etc. Forest and range practices that create disturbance, and alter or stress native plant communities can lead to invasive plants successfully establishing and expanding their range, ultimately impacting many of the eleven FRPA resource values. The Forest and Range Evaluation Program (FREP) has recognized the need to identify, report and monitor FRPA-listed invasive plants throughout BC to assist in meeting the program's stated objectives.

RED	Priority to identify and record.
YELLOW	Identify and record isolated occurrences.
GREEN	No need to report.

Depending on the forest district, incidences of the invasive plant species listed in this guide need to be reported to your regional Invasive Plant Specialist:

SELECTED REFERENCES:

A guide to weeds in British Columbia. 2002. Province of British Columbia Weeds of Canada and the northern United States. 1999. France Royer & Richard Dickinson. Lone Pine Publishing, Vancouver.
Weeds BC www.weedsbc.ca
Invasive Alien Plant Program www.for.gov.bc.ca/hra/Plants/index.htm
Invasive Plant Council of BC www.invasiveplantcouncilbc.ca

CITATION:

Province of British Columbia. 2008. Forest Range and Practices Act Invasive Plants Identification Field

Guide for use with Invasive Plants Resource Stewardship Monitoring Cards. FRPA Resource Evaluation Program. B.C. Min. For.

PREPARED BY

Northwest Invasive Plant Council
www.nwipc.org
Designed by Spark Design
www.SparkDesignCo.com

For more information on Forest Practices Branch publications, visit our website at: <http://www.for.gov.bc.ca/hfp/pubs.htm>

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Boundary Weed Management Committee



BWMC



BWMC



anchusa

Anchusa

Other common names:
COMMON BUGLOSS,
COMMON ALKANET

FLOWER:

Coiled terminal clusters that straighten out as flowers open. Flowers are tubular and reddish to deep blue with white centers.

LEAVES:

Succulent and hairy. Basal leaves lance shaped 6 to 20 cm long, 1 to 5 cm wide, decrease in size towards the top of the plant.

STEMS:

Multiple, hairy, angular stems, 0.3 to 0.8 m tall

ROOTS:

Long taproot

HABITAT:

Warm, acidic, well-drained, fertile soils • Invades open and disturbed sites such as roadsides, pastures and dry fields.

GROWTH FORM AND REPRODUCTION:

Biennial or perennial forb
Reproduces by seed and will resprout from root fragments

Anchusa officinalis L.

IAPP Code: AO

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	*	*	*
Flower		**	**
Seed		**	**

* occurs in year one
** occurs in year two

Note: Basal rosette leaves are produced in year one, one stalk is produced in year two and multiple stalks are produced in year three.

IMPACTS:

Invades rangeland and disturbed sites • If cut in hay its succulent leaves can result in moldy hay.

SIMILAR SPECIES:

Hound's-tongue, flowers are not coiled, seeds are strongly barbed.



Boundary Weed Management Committee (BWMC)



BWMC



blueweed

Blueweed

Other common names:
VIPER'S BUGLOSS,
BLUE DEVIL

Echinum vulgare L.

IAPP Code: BW

FLOWER:

Stalked, tubular, bright blue,
2 cm wide. • Flower buds
reddish purple

LEAVES:

Basal leaves stalked, hairy,
narrow, 6 to 25 cm long • Stem
leaves lance shaped, alternate,
hairy, 1 to 15 cm long,
decreasing in size up the stem

STEMS:

Multiple, hairy, reddish stems, up
to 0.9 m tall • Stem hairs can
have swollen red or black base

ROOTS:

Thick, black taproot
Lateral roots fibrous

HABITAT:

Low to mid elevations
Dry, rocky soils

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	**		*
Flower		**	**
Seed			**

* germination in fall of year one
** occurs in year two

GROWTH FORM AND REPRODUCTION:

Biennial or forb
Reproduces by seed

IMPACTS:

Invades open and disturbed
sites such as pastures and
rangelands.



Northwest Invasive Plant Council



Barb Stewart



common
tansy

Common tansy

Other common names:
GARDEN TANSY

Tanacetum vulgare L.
IAPP Code: TC

FLOWER:

Flat-topped clusters of numerous (20 to 200) small, yellow button-like disk flowers 5 to 10 mm wide on top of plant

LEAVES:

Dark green, alternate, 5 to 25 cm long, 4 to 8 cm wide, fern-like divided into leaflets with serrated margins • Speckled with many small glands, strongly aromatic

STEMS:

Erect, branched, many leaves, 0.4 to 1.8 m tall • Purplish-red towards the base • Speckled with many small glands

ROOTS:

Rhizomatous

HABITAT:

Full sun, low to mid elevations, well-drained, fertile soils • Invades open and disturbed sites such as roadsides, pastures and stream banks.

LIFE CYCLE:

	Spring	Summer	Fall
Vegetative	Green	Green	
Flower		Orange	Orange
Seed			Yellow

GROWTH FORM AND REPRODUCTION:

Perennial forb • Reproduces by seed and vegetatively from roots

IMPACTS:

Prolific seed producer • Outcompetes and displaces native vegetation • Toxic to some livestock

SIMILAR SPECIES:

Tansy ragwort has similar flowers with additional yellow ray (petal-like) flowers.





BWMC



field
scabious

Field scabious

Other common names:
SCABIOSA, BLUE BUTTONS

Knautia arvensis (L.) Coulter
IAPP Code: FS

FLOWER:

Terminal clover-like flower heads, 1.5 to 4.0 cm wide, violet-blue, pink or purple flowers

LEAVES:

Basal leaves coarsely toothed, covered in fine hairs • Stem leaves opposite, feather shaped, 10 to 36 cm long, decreasing in size up the stem, covered in fine hairs

STEMS:

Erect, single, branched near the top, hairy, stem base can be purplish, 0.3 to 1.3 m tall

ROOTS:

Long woody taproot, can be branched

HABITAT:

Mid elevations, moderately moist to dry fertile soils • Invades open and disturbed sites such as roadsides, pastures and agricultural fields.

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	Green	Green	White
Flower	Orange	Orange	White
Seed	White	Yellow	Yellow

GROWTH FORM AND REPRODUCTION:

Perennial forb
Reproduces by seed

IMPACTS:

Invades disturbed and undisturbed areas and replaces forage species.



Northwest Invasive Plant Council

Tom Heutte, USDA Forest Service, Bugwood.org



Jeff Hallworth



giant
knotweed

Giant knotweed

Other common names:
BAMBOO

Fallopia sachalinensis

(F. Schmidt) Ronse Decr
IAPP Code: GK

FLOWER:

Small, sparse, greenish-white, plume-like axial sprays 2.5 to 3 mm long

LEAVES:

Alternate, long stalk, hart-shaped, up to 40 cm long

STEMS:

Erect, branched, hollow, speckled red-brown, 3 cm in diameter, up to 6 m tall • Swollen joints (nodes) give a bamboo-like appearance • Grow in dense thickets

ROOTS:

Large, extensive rhizomatic systems

HABITAT:

Escaped ornamental adapted to a variety of soil types, prefer open sites with high to moderate soil moisture • Invades open and disturbed sites such as riparian areas and ditches.

GROWTH FORM AND REPRODUCTION:

Perennial forb • Rapid vegetative reproduction through spreading rhizomes and rhizome and shoot fragments. • Seed production can be sporadic with low seed viability.

LIFE CYCLE:

	Spring	Summer	Fall
Vegetative	Green	Green	Green
Flower	White	Orange	Orange
Seed	White	Yellow	Yellow

IMPACTS:

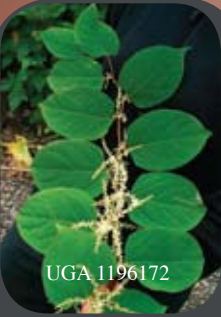
Infests and dominates suitable habitats, reducing biodiversity, access to water bodies and stream bank stability. Rhizome fragments can be transported downstream and start new colonies.

SIMILAR SPECIES:

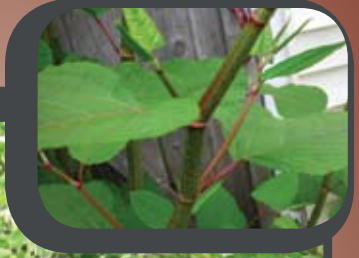
Himalayan knotweed, smaller lance-shaped leaves, abundant stiff hairs on leaf margin and underside leaf veins. • Japanese knotweed, smaller leaves with straight base, knobs on underside leaf veins. • Bohemian knotweed hybrid of Giant and Japanese knotweeds.



Bradley Kriekhaus, USDA Forest Service, Bugwood.org



UGA 1196172



Northwest Invasive Plant Council



japanese
knotweed

Japanese knotweed

Other common names:

ELEPHANT EARS, SALLY RHUBARB,
MEXICAN BAMBOO

Fallopia japonica

(Houtt.) Ronse Decr.

IAPP Code: JK

FLOWER:

Small, loose, greenish-white, plume-like axial sprays 2.5 to 3 mm long

LEAVES:

Alternate, oval-shaped, long stalks, straight leaf base (truncate), abruptly pointed tip, up to 10 cm long, leathery texture

STEMS:

Erect, abundantly branched, hollow, speckled purple-brown, 3 cm in diameter, up to 1.5 to 2.5 m tall • Swollen joints (nodes) give a bamboo-like appearance • Grow in dense thickets

ROOTS:

Large, extensive rhizomatic systems

HABITAT:

Escaped ornamental adapted to a variety of soil types, prefer open sites with high to moderate soil moisture • Invades open and disturbed sites such as riparian areas and ditches.

GROWTH FORM AND REPRODUCTION:

Perennial forb • Rapid vegetative reproduction through spreading rhizomes and rhizome and shoot fragments. • Seed production can be sporadic with low seed viability.

LIFE CYCLE:

	Spring	Summer	Fall
Vegetative	Green	Green	Green
Flower	White	Orange	White
Seed	White	Yellow	Yellow

IMPACTS:

Infests and dominates suitable habitats, reducing biodiversity, access to water bodies and stream bank stability. Rhizome fragments can be transported downstream and start new colonies.

SIMILAR SPECIES:

Himalayan knotweed, smaller lance-shaped leaves, abundant stiff hairs on leaf margin and underside leaf veins. • Giant knotweed, larger leaves with heart-shaped base, large hairs on underside leaf veins. • Bohemian knotweed, hybrid of Giant and Japanese knotweeds.



Barb Stewart



Lisa Scott



hoary
alyssum

Hoary alyssum

Other common names:
NONE

Berteroa incana L.

IAPP Code: HA

FLOWER:

Stalked, white, petals have a deep notch, 0.5 to 0.8 cm in length • Sepals hairy, short-lived

LEAVES:

Grey, star-shaped hairs
Basal leaves stalked, 3 to 5 cm long • Stem leaves elliptical, short or no stalks

STEMS:

Erect, multiple or single, branched, 0.3 to 1.1 m tall
Covered with pale, star-shaped hairs

ROOTS:

Small taproot

HABITAT:

Dry, coarse textured soils
Open and disturbed sites such as roadsides, pastures and meadows.

GROWTH FORM AND REPRODUCTION:

Biennial (rarely perennial) forb
Reproduces by seed, larger rootstocks will produce multiple stems

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	Green		
Flower	Orange	Orange	Orange
Seed		Yellow	Yellow

IMPACTS:

Invades dry, disturbed habitats such as sub-marginal farm or rangeland, roadsides and railway embankments. Reduces quality of infested hay. Can be toxic to horses.

SIMILAR SPECIES:

Pale, desert and wall alyssum, smaller plants, desert and wall alyssum produce yellow flowers.



Ministry of
Agriculture
and Lands



Boundary Weed Management Committee



leafy
spurge

Leafy spurge

Other common names:

NONE

***Euphorbia esula* L.**

IAPP Code: LS

FLOWER:

Numerous small yellow-green terminal umbrella-shaped clusters • Prominent paired bracts under the flower

LEAVES:

Lance-shaped, alternate, stalkless, 2 to 6 cm long, 0.3 to 0.5 cm wide

STEMS:

Erect, clustered, branched, somewhat woody, smooth, bluish-green up to 1 m tall

ROOTS:

Woody taproot

HABITAT:

Low to mid elevations • Prefers semi-arid areas but also found in very dry and very wet areas • Tolerates a range of soils textures, prefers coarse soils

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	Present	Absent	Absent
Flower	Present	Present	Absent
Seed	Absent	Absent	Present

GROWTH FORM AND REPRODUCTION:

Perennial forb • Reproduction by seed and vegetatively by lateral roots (predominantly)

IMPACTS:

Persistent, aggressive invader of rangeland. Toxic to most livestock. Produces allelopathic compounds that inhibit growth of neighbouring plants. All parts of the plant produce irritating milky latex that can cause blisters and swelling.

SIMILAR SPECIES:

Cypress spurge, escaped ornamental, leaves are greener, slightly club-shaped and more abundant.

MAL



Ministry of Agriculture and Lands



marsh plume
thistle

Marsh plume thistle

Other common names:

NONE

Cirsium palustre Scop.

IAPP Code: MT

FLOWER:

Compact clusters of small, terminal purple flowers

LEAVES:

Mostly basal, spiny, deeply segmented, prominent woody veins, hairy undersides, winged bases

STEMS:

Slender, erect, generally unbranched, 0.3 to 2.0 m tall, spiny and with spiny wings arising from winged leaf-bases

- Mature stems have distinctive purple tinge

ROOTS:

Fibrous

HABITAT:

Invades open and disturbed, moist to wet sites such as roadsides, cutblocks, stream and pond banks, and wet meadows

GROWTH FORM AND REPRODUCTION:

Biennial forb • Reproduces by seed

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	*		*
Flower		**	**
Seed			**

* germination in spring or fall of year one
** occurs after year one

IMPACTS:

Forms dense mats of rosettes which exclude native vegetation and planted forage species • Able to establish in undisturbed sites

SIMILAR SPECIES:

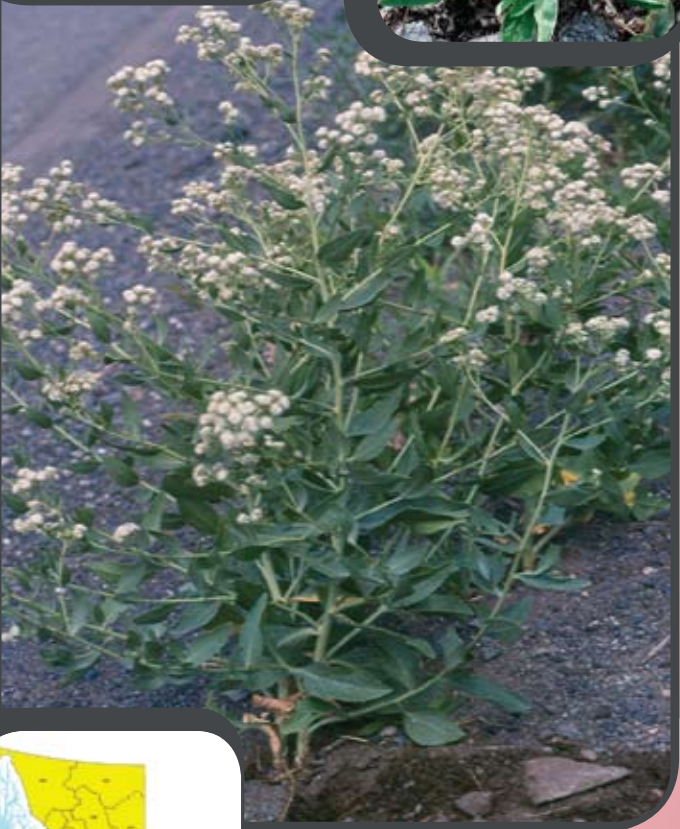
The winged stems and leaf bases, and purple hue differentiates this thistle from other *Cirsium* species. No native species have these characteristics.



Leslie J. Mehrhoff, University of
Connecticut, Bugwood.org



Ministry of Agriculture and Lands



perennial
pepperweed

Perennial pepperweed

Other common names:

TALL WHITETOP, GIANT WHITEWEED,
PERENNIAL PEPPERGRASS

Lepidium latifolium L.

IAPP Code: PP

FLOWER:

Dense terminal clusters of four-petaled small white flowers

LEAVES:

Bright grey-green, waxy, alternate, lance-shaped, edges entire to toothed, distinctive white mid-veins • Basal leaves up to 30 long, 8 cm wide, stem leaves 7 to 25 cm long

STEMS:

Erect, multiple stems, 0.5 to 2.0 m tall

ROOTS:

Deep, creeping roots from a woody crown

HABITAT:

Invade a wide range of habitats including riparian areas, wetlands, ditches, forests, rangeland, pastures and cropland. Thrives in seasonally wet areas in fine-textured, saline soils and disturbed areas.

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	Green	White	White
Flower	Orange	Orange	White
Seed	White	Yellow	White

GROWTH FORM AND REPRODUCTION:

Perennial forb • Reproduces primarily vegetatively from roots, prolific seed producer.

IMPACTS:

Large infestations displace native plants • Can impact alfalfa and pasture production • Reported to adversely affect food quality and nesting habitat for native birds.

SIMILAR SPECIES:

Hoary cress, leaves clasp the stem, not waxy.



MAL

Gary L. Piper, Washington State University, Bugwood.org



UGA002603

plumeless
thistle

Todd Pfeiffer, Klamath County Weed Control, Bugwood.org

Plumeless thistle

Other common names:
SPINY PLUMELESS THISTLE,
WELTED THISTLE

Carduus acanthoides L.

IAPP Code: PT

FLOWER:

Single or clusters of 2 to 5 flower heads, terminal reddish-purple flower heads approximately 2.0 to 5.0 cm wide. • Flower bracts lance-shaped sharp spines

LEAVES:

Basal rosette leaves deeply serrated, 10 to 20 cm long • Stem leaves stalkless, hairy underneath

STEMS:

Erect, branched, spiny wings from base to flower heads, 0.3 to 1.2 m tall

ROOTS:

Fleshy taproot

HABITAT:

Invades open and disturbed mid elevation sites such as grasslands, roadsides, and pastures.

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	Green	Green	Green
Flower		Orange	
Seed		Yellow	Yellow

GROWTH FORM AND

REPRODUCTION:

Winter annual or biennial forb • Prolific seed production

IMPACTS:

Infestations reduce crop and forage production, unpalatable to cattle, invades undisturbed grassland communities.

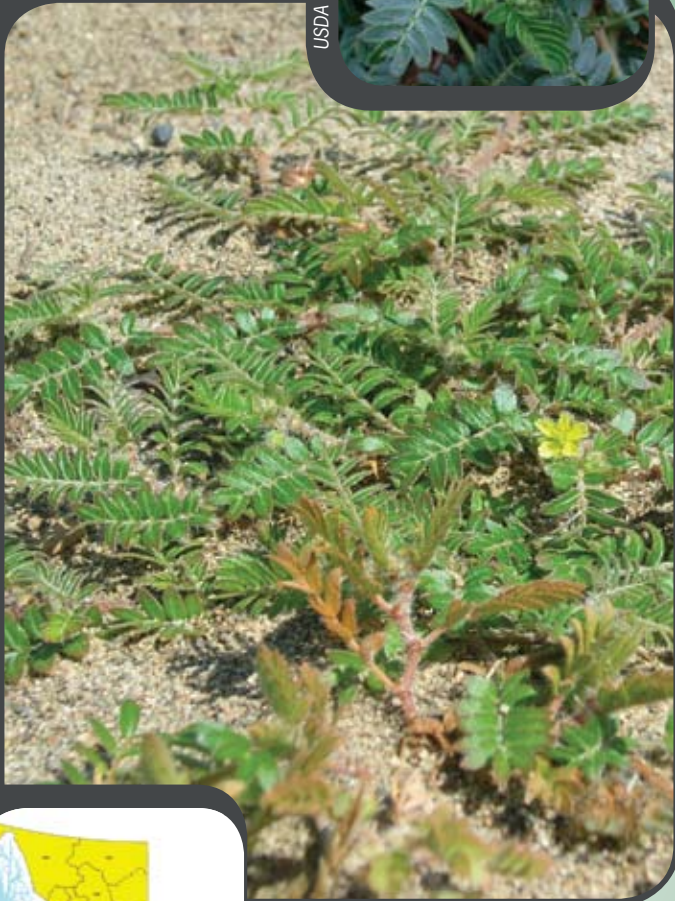
SIMILAR SPECIES:

Nodding thistle, larger flowers and stem, no hairs on leaves, white margin around leaf margins.





USDA



Lisa Scott



puncturevine

Puncturevine

Other common names:
BULLHEAD, CALTROP, GOATHEAD,
TACKWEED, TEXAS SANDBUR

Tribulus terrestris L.

IAPP Code: PV

FLOWER:

Single, terminal, stalked, five petaled, yellow flowers, held in the leaf axils • Distinct sharp-spined fruits 0.2 to 0.6 cm long

LEAVES:

Opposite, hairy, divided into four to eight pairs of oval leaflets each 5 to 15 mm long

STEMS:

Dense mat of prostrate, much branched stem, 6 to 1.5 m tall, up to 1.0 m wide

ROOTS:

Woody taproot

HABITAT:

Adapted to a variety of conditions, prefers warm temperate climate and dry, light textured soils. Requires relatively high temperatures for germination and growth. Found in the southern interior in pastures, roadsides, waste places, rail yards, and agricultural areas.

LIFE CYCLE:

	Spring	Summer	Fall
Vegetative	Green	Green	White
Flower	White	Orange	Orange
Seed	White	Yellow	Yellow

GROWTH FORM AND REPRODUCTION:

Annual forb • Abundant seed production

IMPACTS:

The spines of the fruit can injure the feet animals or children or the mouth, stomach, and intestines of livestock. It can be toxic to grazing animals.



Lisa Scott

Utah State University Archive, Bugwood.org



UGA1459572

rush
skeletonweed

Richard Old, XID Services, Inc., Bugwood.org

Rush skeletonweed

Other common names:

NONE

***Chondrilla juncea* L.**

IAPP Code: RS

FLOWER:

Terminal flower heads, single or groups of 2 to 3, each flower head holds 10 to 12 star-shaped bright yellow flowers, 2 cm wide

LEAVES:

Basal leaves lance-shaped, deeply lobed, sharply toothed, 5 to 13 cm long, leaves wither as stem develops • Stem leaves small, narrow, margins entire

STEMS:

Erect, much branched, 0.4 to 1.0 m tall • Upper stem smooth, lower stem with downward pointing hairs • Contains a milky latex

ROOTS:

Deep taproot

HABITAT:

Mid elevations, sandy or coarse, dry soils • Invades open and disturbed sites such as roadsides, cropland and rangelands.

LIFE CYCLE:

	Spring	Summer	Fall
Rosette	Green	White	Green
Flower	White	Orange	White
Seed	White	Yellow	Yellow

GROWTH FORM AND REPRODUCTION:

Perennial forb • Reproduction predominantly by seed, also vegetatively from roots

IMPACTS:

Forms dense colonies that exclude native vegetation and desired forage species and rarely invades healthy plant communities. The latex produced by the plant is problematic for crop harvesting machinery.

Steve Dewey,
Utah State University,
Bugwood.org



Barb Stewart



Becky Brown



scotch
broom

Scotch broom

Other common names: SCOT'S BROOM, BROOMTOP, COMMON BROOM, EUROPEAN BROOM

FLOWER:

Pea-like, single in axils, bright yellow with or without red markings, 2,5 cm in length, multiple flowers per stem • Brown seed pods are evident post-flowering through fall

LEAVES:

Lower leaves: dark green, alternate, stalked, trifoliate (clover-like), oval to lance shaped, 6 to 12 mm long • Upper leaves: dark green, no stalk, simple

STEMS:

Erect, multiple, branched (top), woody, five angled, few leaves, 1 to 3 m tall

ROOTS:

Taproot, lateral fibrous roots

HABITAT:

Dry, well drained soils in open marginal and disturbed sites • Invades grasslands, sand dunes, cultivated fields, roadsides, dry riverbeds and waterways

GROWTH FORM AND REPRODUCTION:

Perennial shrub • Reproduces by seed and vegetatively

Cytisus scoparius L.

IAPP Code: SB

LIFE CYCLE:

	Spring	Summer	Fall
Vegetative			
Flower			
Seed			

IMPACTS:

Invades rapidly following logging, land clearing and burning • Forms dense thickets which exclude native vegetation. Compete with planted tree seedlings

SIMILAR SPECIES:

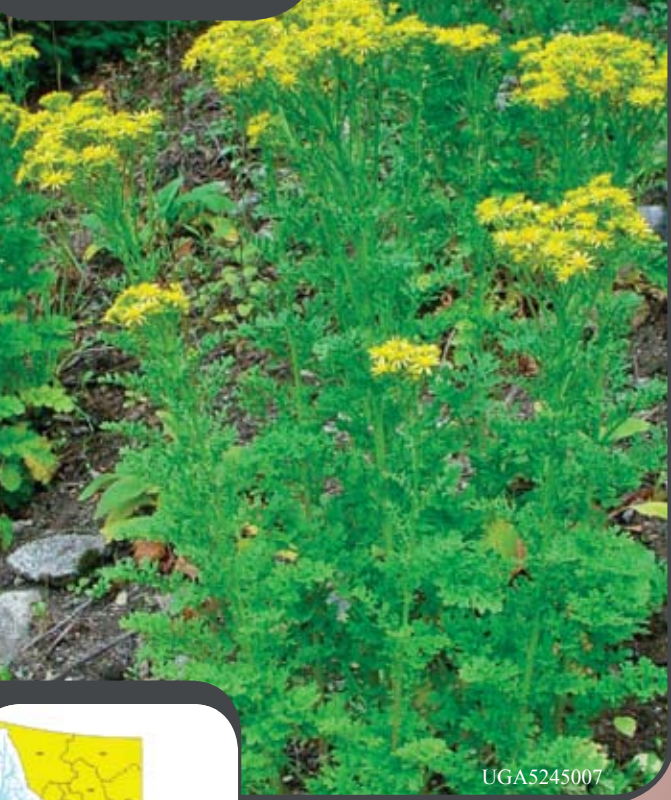
Gorse, has spines • Spanish broom, multiple flowers per axil, fragrant, terminal flowers instead of along the stem, round bright green stems



Becky Brown

Ministry of Agriculture and Lands

Richard Old, XID Services, Inc., United States



UGA5245007



tansy
ragwort

Tansy ragwort

Other common names:
COMMON RAGWORT,
STAGGERWORT

Senecio jacobaea L.
IAPP Code: TR

FLOWER:

Numerous, terminal flat-topped clusters of bright yellow daisy-like flowers • Flower head bracts black tipped, arranged in a single row

LEAVES:

Dark green, lobbed, tips rounded
Basal leaves stalked, 4 to 20 cm long, 2 to 6 cm wide •
Stem leaves alternate, whitish underside, smaller and stalkless towards the top of the plant.

STEMS:

Erect, purplish, branched near the top, 0.2 to 1.2 m tall •
Purplish-red towards the base
Speckled with many small glands

ROOTS:

Taproot with fibrous lateral roots

HABITAT:

Prefers full sun, partial shade and well-drained soils. • Found on disturbed sites including roadsides, pastures and clear-cuts.

LIFE CYCLE:

	Spring	Summer	Fall
Rosette			
Flower		**	**
Seed			**

* germination in spring or fall of year one
** occurs after year one

GROWTH FORM AND REPRODUCTION:

Biennial or short-lived perennial forb • Reproduces primarily by seed, can regenerate from root and shoot fragments

IMPACTS:

Prolific seed producer •
Displaces desired forage species
• Toxic to livestock and wildlife

SIMILAR SPECIES:

Common tansy, bright yellow flowers without ray (petal-like) flowers, has sharply toothed leaves.



Lisa Scott