



Idaho's Noxious Weeds

9TH EDITION



University of Idaho
Extension

IDAHO'S NOXIOUS WEEDS

9TH EDITION

by Timothy Prather, Sandra Robins,
and Don Morishita

Technical information and assistance was provided by
Daniel Safford and Stephen Cox at the Idaho State
Department of Agriculture.

This handbook was prepared in cooperation with the
Idaho State Department of Agriculture, Bureau of Land Management,
and the United States Forest Service.



This handbook is valid as to its list of noxious weeds as of the date of publication. However, the list of Idaho's noxious weeds is subject to change. Please contact the Idaho State Department of Agriculture or go to invasivespecies.idaho.gov/plants to ensure that the list set forth in this handbook is correct.

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Contents

QUICK REFERENCE GUIDE

White flowers	vi
Yellow flowers.....	ix
Yellow-green or orange flowers	xi
Pink-purple flowers	xii
Pink-purple-blue flowers.....	xiv
Aquatic weeds.....	xv
Grasses	xviii

INTRODUCTION

Impacts to our natural systems	1
What are noxious weeds?	1
Categories of noxious weeds	1
Submitting weeds for identification	3
How to use this guide	4

IDAHO'S NOXIOUS WEEDS

Black henbane (<i>Hyoscyamus niger</i>).....	6
Bohemian knotweed (<i>Polygonum X bohemicum</i>).....	8
Brazilian elodea (<i>Egeria densa</i>)	10
Brooms.....	12-19
Tagaste, Escabon or Tree lucerne (<i>Chamaecytisus prolifera</i>)	12
Scotch broom (<i>Cytisus scoparius</i>)	14
French broom (<i>Genista monspessulana</i>)	16
Spanish broom (<i>Spartium junceum</i>).....	18
Buffalobur (<i>Solanum rostratum</i>).....	20
Canada thistle (<i>Cirsium arvense</i>).....	22
Common crupina (<i>Crupina vulgaris</i>)	24
Common/European frogbit (<i>Hydrocharis morsus-ranae</i>)	26
Common reed (Phragmites) (<i>Phragmites australis</i>).....	28
Curlyleaf pondweed (<i>Potamogeton crispus</i>).....	30

Dalmatian toadflax (<i>Linaria dalmatica</i> ssp. <i>dalmatica</i>)	32
Diffuse knapweed (<i>Centaurea diffusa</i>)	34
Dyer's woad (<i>Isatis tinctoria</i>)	36
Eurasian watermilfoil (<i>Myriophyllum spicatum</i>)	38
Fanwort (<i>Cabomba caroliniana</i>)	40
Feathered mosquito fern (<i>Azolla pinnata</i>).....	42
Field bindweed (<i>Convolvulus arvensis</i>).....	44
Flowering rush (<i>Butomus umbellatus</i>)	46
Giant hogweed (<i>Heracleum mantegazzianum</i>).....	48
Giant knotweed (<i>Polygonum sachalinense</i>)	50
Giant salvinia (<i>Salvinia molesta</i>)	52
Hoary alyssum (<i>Berteroa incana</i>).....	54
Houndstongue (<i>Cynoglossum officinale</i>).....	56
Hydrilla (<i>Hydrilla verticillata</i>).....	58
Iberian starthistle (<i>Centaurea iberica</i>)	60
Japanese knotweed (<i>Polygonum cuspidatum</i>).....	62
Johnsongrass (<i>Sorghum halepense</i>).....	64
Jointed goatgrass (<i>Aegilops cylindrica</i>).....	66
Leafy spurge (<i>Euphorbia esula</i>)	68
Matgrass (<i>Nardus stricta</i>)	70
Meadow knapweed (<i>Centaurea debeauxii</i>).....	72
Mediterranean sage (<i>Salvia aethiopis</i>)	74
Milium (<i>Milium vernale</i>)	76
Musk thistle (<i>Carduus nutans</i>)	78
Orange hawkweed (<i>Hieracium aurantiacum</i>).....	80
Oxeye daisy (<i>Leucanthemum vulgare</i>).....	82
Parrotfeather milfoil (<i>Myriophyllum aquaticum</i>).....	84
Perennial pepperweed (<i>Lepidium latifolium</i>)	86
Perennial sowthistle (<i>Sonchus arvensis</i>).....	88
Plumeless thistle (<i>Carduus acanthoides</i>).....	90
Poison hemlock (<i>Conium maculatum</i>)	92
Policeman's helmet (<i>Impatiens glandulifera</i>)	94
Puncturevine (<i>Tribulus terrestris</i>)	96
Purple loosestrife (<i>Lythrum salicaria</i>).....	98

Purple starthistle (<i>Centaurea calcitrapa</i>)	100
Rush skeletonweed (<i>Chondrilla juncea</i>)	102
Russian knapweed (<i>Acroptilon repens</i>)	104
Saltcedar (<i>Tamarix</i> sp.)	106
Scotch thistle (<i>Onopordum acanthium</i>)	108
Small bugloss (<i>Anchusa arvensis</i>)	110
Spotted knapweed (<i>Centaurea stoebe</i>)	112
Squarrose knapweed (<i>Centaurea triumfetti</i>)	114
Syrian beancaper (<i>Zygophyllum fabago</i>)	116
Tall hawkweed (<i>Hieracium piloselloides</i>)	118
Tansy ragwort (<i>Senecio jacobaea</i>)	120
Variable-leaf-milfoil (<i>Myriophyllum heterophyllum</i>)	122
Vipers bugloss (<i>Echium vulgare</i>)	124
Water chestnut (<i>Trapa natans</i>)	126
Water hyacinth (<i>Eichhornia crassipes</i>)	128
White bryony (<i>Bryonia alba</i>)	130
Whitetop (hoary cress) (<i>Cardaria draba</i>)	132
Yellow devil hawkweed (<i>Hieracium glomeratum</i>)	134
Yellow flag iris (<i>Iris pseudacorus</i>)	136
Yellow floating heart (<i>Nymphoides peltata</i>)	138
Yellow hawkweed (<i>Hieracium caespitosum</i>)	140
Yellow starthistle (<i>Centaurea solstitialis</i>)	142
Yellow toadflax (<i>Linaria vulgaris</i>)	144
 GLOSSARY	 146
 PHOTO CREDITS	 149

Quick Reference Guide

WHITE FLOWERS



Field bindweed p. 44



Black henbane p. 6



Syrian beancaper p. 116



White bryony p. 130



Diffuse knapweed p. 34



Mediterranean sage p. 74

Quick Reference Guide

WHITE FLOWERS, CONT.



Perennial pepperweed p. 86



Whitetop p. 132



Hoary alyssum p. 54



Giant knotweed p. 50



Japanese knotweed p. 62



Bohemian knotweed p. 8

Quick Reference Guide

WHITE FLOWERS, CONT.



Poison hemlock p. 92



Giant hogweed p. 48



Oxeye daisy p. 82



Tagaste, Escabon or
Tree Lucerne p. 12

Quick Reference Guide

YELLOW FLOWERS



Dalmatian toadflax p. 32



Yellow toadflax p. 144



Dyer's woad p. 36



Yellow flag iris p. 136



Perennial sowthistle p. 88



Yellow starthistle p. 142

Quick Reference Guide

YELLOW FLOWERS, CONT.



Tall hawkweed p. 118



Yellow devil hawkweed p. 134



Yellow hawkweed p. 140



Rush skeletonweed p. 102



Tansy ragwort p. 120



Buffalobur p. 20

Quick Reference Guide

YELLOW FLOWERS, CONT.



Puncturevine p. 96



Scotch broom p. 14



French broom p. 16



Spanish broom p. 18

YELLOW-GREEN OR ORANGE FLOWERS



Leafy spurge p. 68



Orange hawkweed p. 80

Quick Reference Guide

PINK-PURPLE FLOWERS



Flowering rush p. 46



Policeman's helmet p. 94



Common crupina p. 24



Purple loosestrife p. 98



Saltcedar p. 106



Houndstongue p. 56

Quick Reference Guide

PINK-PURPLE FLOWERS, CONT.



Spotted knapweed p. 112



Meadow knapweed p. 72



Russian knapweed p. 104



Squarrose knapweed p. 114



Iberian starthistle p. 60



Purple starthistle p. 100

Quick Reference Guide

PINK-PURPLE-BLUE FLOWERS



Scotch thistle p. 108



Canada thistle p. 22



Musk thistle p. 78



Plumeless thistle p. 90



Vipers bugloss p. 124



Small bugloss p. 110

Quick Reference Guide

AQUATIC WEEDS



Variable-leaf-milfoil p. 122



Eurasian watermilfoil p. 38



Parrotfeather milfoil p. 84



Fanwort p. 40



Curlyleaf pondweed p. 30



Hydrilla p. 58

Quick Reference Guide

AQUATIC WEEDS, CONT.



Yellow floating heart p. 138



Water hyacinth p. 128



Water chestnut p. 126



Common/European frogbit p.26



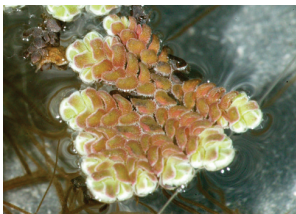
Brazilian elodea p. 10



Giant salvinia p. 52

Quick Reference Guide

AQUATIC WEEDS, CONT.



Feathered mosquito fern p. 42

Quick Reference Guide

GRASSES



Common reed p. 28



Johnsongrass p. 64



Matgrass p. 70



Miliun p. 76



Jointed goatgrass p. 66

Introduction

IMPACTS TO OUR NATURAL SYSTEMS

Idaho's noxious weeds include species that make significant modifications to the landscape. Purple loosestrife can change stream velocity, which increases siltation. Species such as spotted knapweed can accelerate soil erosion. Salt cedar deposits salt on the soil surface from below-ground alkaline water, which leads to the elimination of all salt-sensitive species. Areas within the Czech Republic are seeing reductions in native species because they have lost their pollinators to the nectar of Policeman's helmet, another Idaho noxious weed. Bohemian knotweed is creating monocultures along many Idaho streams, where it lacks the bank stabilizing root system of our native riparian species.

WHAT ARE NOXIOUS WEEDS?

Idaho's noxious weeds are plant species that have been designated "noxious" by law in the Idaho Code (title 22, chapter 24, "Noxious Weeds"). The weed law is implemented using administrative rules. These rules are contained in IDAPA (Idaho Administrative Procedures Act) 02, title 06, chapter 22, "Noxious Weed Rules." Idaho's noxious weed law is online at <https://legislature.idaho.gov/statutesrules/idstat/Title22/T22CH24/>. The administrative rules are online at <https://adminrules.idaho.gov/rules/current/02/index.html>.

CATEGORIES OF NOXIOUS WEEDS

The administrative rules put noxious weeds into categories that can affect how they are managed. Within this guide, each species is labeled as to its category within the administrative rules.

Statewide early detection and rapid response (EDRR). Plants in this category must be reported to the Idaho State Department of Agriculture (ISDA) within 10 days after being identified at the

University of Idaho or by another qualified authority approved by the ISDA director. Eradication of these weeds must begin in the same season they are found.

Statewide control. Plants in this category may already exist in some parts of the state. In some areas of the state control or eradication is possible, and a plan must be written that will reduce infestations within 5 years.

Statewide containment. Plants in this category exist in the state. New or small infestations can be reduced or eliminated, while established populations may be managed as determined by the weed control authority, which usually is the county weed program.

Prohibited genera. Plants in this category are prohibited from the state and may not be sold or moved within the state. There may be species found in Idaho that are within the prohibited genera. Those populations must be controlled or eradicated, following a written control plan to reduce populations within five years or to eradicate. The plan must be available to the Idaho State Department of Agriculture upon request.

WEED IDENTIFICATION

Submit weeds and suspected weeds to the Erickson Weed Diagnostic Laboratory at the University of Idaho:

1. **If you know the weed**, report it. If a weed has not been reported in your area before, please send us location information and either the plant itself or pictures that would allow us to identify the plant. We need to map Idaho's weeds to plan our strategy. Your reports are important.
2. **If you don't know the plant**, request identification.

What to send. Plants are identified by flowers, fruits, seedlings, leaves, rosettes, stems, roots, and habitat. Send plants that have as many of these identifiers as possible. Several plants are better than one.

How to send. Place the plant specimen in a closed plastic bag between dry paper towels. Do not press on the plant or add moisture to the bag. Store the bag in a refrigerator until mailing or bringing it in. If you are mailing your specimen, mail it early in the week so it won't sit in a mailbox over the weekend.

Where to send. Erickson Weed Diagnostic Laboratory, College of Agricultural and Life Sciences, 875 Perimeter Dr MS 2339, Moscow ID 83844-2339. You may also bring specimens to your nearest University of Idaho Extension office or to your county weed superintendent's office.

The laboratory's taxonomist identifies hundreds of plants each year, some of which are new to the region or state. The service is free. Contact the UI Extension educator in your county for submission forms.

HOW TO USE THIS GUIDE

The weeds in this book are arranged alphabetically by weed common name. For weeds that have more than one common name, the book uses the name in Idaho's official noxious weed list.

The description for each weed includes the following:

Weed name and family. Common and scientific names for the weed and its plant family.

Category. The official category of an Idaho's noxious weed—prohibited genera, early detection rapid response (EDRR), containment, or control. The category appears in a color-coded bar directly below family name. Maroon (reddish) signifies EDRR, blue containment, and gold control and prohibited genera.

Poison. A poison symbol (skull and crossbones) in the category bar denotes weeds that are poisonous.

Background. A summary of important information about the weed, including an indication of the distance seeds or other plant parts move. This dispersal distance can help you determine the size of the treatment area. This section also contains the length of time seeds survive.

Description. Life history, height, and other overall features. Subsections follow that describe roots, leaves, flowers, and seeds.

Habitat. Where the weed is most likely to occur.

Similar plants. Plants that can be confused with the weed and ways to distinguish among them.

Idaho distribution map. Shows counties in which the weed was present in the ISDA database as of January 2010 and in the continually updated North American Vascular Flora Database by John T. Kartesz, Biota of North America Program.

Photographs. Captions lead you to important distinguishing features of each weed.

Leaf shape. The general outline of the weed’s leaves, minus leaf margin detail (such as a saw-like leaf edge) appears at bottom right. If a plant has more than one leaf shape, both are included, with “R” designating a rosette leaf and “S” a stem leaf.

LEAF SHAPE OUTLINES OF IDAHO’S NOXIOUS WEEDS

 Elliptic or oval	 Palmately lobed
 Entire	 Pinnately dissected
 Even pinnate	 Pinnately lobed
 Heart-shaped	 Pinnately twice lobed
 Lanceolate	 Round
 Linear	 Sagittate
 Lobes backward	 Scalelike
 Lobed with a large tip	 Spatulate
 Oblong	 Triangular
 Odd pinnate	 Trifoliate
 Paired leaflets	 Twice pinnate



Black henbane

Hyoscyamus niger

Solanaceae, the nightshade family

CATEGORY: Control



BACKGROUND

- Native to the Mediterranean; introduced as an ornamental and medicinal plant
- Pungent odor
- Toxic to humans and animals
- Reproduces by seed
- Disperses short distances (less than 5 yards)
- Seed longevity not reported

DESCRIPTION: Annual or biennial up to 3 feet tall

Roots: Thick, fleshy taproot

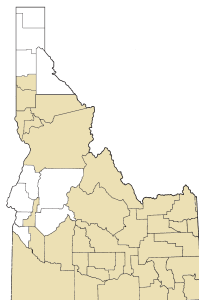
Leaves: Alternate, gray-green, oblong to lance-shaped, coarsely toothed to pointed pinnately lobed with prominent veins, covered with short glandular hairs

Flowers: Funnel-shaped, 5-lobed, off-white with deep purple centers and veins; solitary in leaf axils; flower stem coiled

Seeds: Egg-shaped capsule contains numerous brown to gray, flattened, and deeply pitted seeds

HABITAT: Roadsides, fields, and disturbed areas

SIMILAR PLANTS: None



Flowers have deep purple centers and veins. Seedling leaves are oblong to lance-shaped with stalks. Leaves are coarsely toothed to shallowly lobed and pubescent. Calyxes on fruiting stem contain the seed capsule.





Bohemian knotweed

Polygonum X bohemicum

Polygonaceae, the buckwheat family

CATEGORY: Control

BACKGROUND

- Introduced from Asia as a garden ornamental
- Hybrid between giant and Japanese knotweeds
- Reproduces by rhizomes and stem fragments, occasionally by seed
- Disperses by stem and root fragments moving in water
- Crowns live more than 5 years, seeds at least 4 years

DESCRIPTION: Clumping perennial with hollow stems; up to 12 feet tall

Roots: Long creeping rhizomes up to 18 feet long

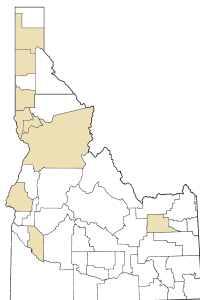
Leaves: Egg-shaped with pointed tip; leaf base flat across to heart-shaped; twigs zig-zag; purple-spotted stems with sheathing membranous stipules

Flowers: Erect, upright panicle contains numerous small white flowers

Seeds: Glossy; brown to dark brown

HABITAT: Disturbed moist sites and wetland and riparian areas

SIMILAR PLANTS: Japanese knotweed flowers are drooping; giant knotweed has larger, more elongated leaves with a heart-shaped base



Flowers tend to be erect, not drooping. Leaf base is slightly to very heart-shaped.





Brazilian elodea

Egeria densa

Hydrocharitaceae, the waterweed family

CATEGORY: EDRR

BACKGROUND

- Introduced from South America for aquarium use
- Forms dense stands or subsurface mats
- Reproduces vegetatively by stolons and stem fragments; does not develop stem turions (specialized buds)
- Disperses by means of floating fragments
- Stolon longevity not reported

DESCRIPTION: Submerged aquatic perennial with slender branched stems

Roots: Slender; certain nodes develop roots on the stems

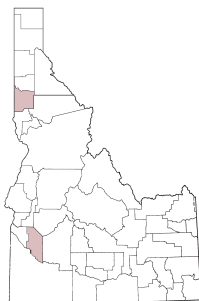
Leaves: Linear to oblong; $\frac{3}{4}$ – $1\frac{3}{4}$ inch long and $\frac{1}{8}$ – $\frac{1}{4}$ inch wide; margins finely toothed; in whorls of 4–6

Flowers: 3 white petals and yellow center; flowers float at the water surface, attached at the base of the leaf whorls with threadlike flower stalks 1–4 inches long

Seeds: Not produced in western U.S.

HABITAT: Canals, rivers, ponds, lakes, and reservoirs

SIMILAR PLANTS: Common elodea has 2–3 leaves per whorl; hydrilla has 5–8 whorled flowers in leaf axils; Brazilian elodea is typically larger



Flowers float on water. Leaves occur in closely spaced whorls of 4–6 along the stem.





Brooms • Genus: *Chamaecytisus**

Example: Tagasaste, Escabon or Tree Lucerne

Chamaecytisus prolifera (also called *Cytisus proliferus*)
Fabaceae, the pea family

CATEGORY: Prohibited genera

BACKGROUND

- All brooms are prohibited; this is one of several invasive broom species
- Native to the Canary Islands and used as a forage shrub; now found in California
- Produces at least 6000 seeds per shrub
- Can survive winter temperatures above 5° F

DESCRIPTION: Evergreen perennial shrub up to 12 feet tall, living at least 25 years

Roots: Deep, branched taproot

Leaves: Dark green, compound with 3 ovate to oblong leaflets that are up to 2.5 inches long; silky pubescence on undersides of leaves; very young plants lack hairs

Stems: Sometimes stem has minor ridges but not 5-angled

Flowers: Creamy white pealike flowers in loose, red-pedicelled umbels along the stems

Seeds: Pods are black, narrow at the base, oblong, hairy and flattened, 2 inches in length; 10 seeds per pod, brown to black and oval shaped

HABITAT: Well drained soils, disturbed sites such as pastures, forest borders, lawns, and roadsides

SIMILAR PLANTS: Other brooms lack 5-angled stems; gorse has thorns

**Entire genus is prohibited. This example species is one most likely to be encountered.*



White pealike flowers on red pedicels in loose umbels. Seed pods are black, oblong, hairy and flattened; seeds are brown to black and oval.



Brooms • Genus: *Cytisus**

Example: Scotch broom

Cytisus scoparius

Fabaceae, the pea family

CATEGORY: Prohibited genera



BACKGROUND

- Native to Europe; introduced as a landscape ornamental and planted for erosion control
- Toxic to humans and livestock
- Seeds disperse up to 30 feet
- Seeds remain viable at least 3 years, likely much longer

DESCRIPTION: Perennial shrub up to 10 feet tall with yellow, pealike flowers

Roots: Deep, branched taproot

Leaves: Mostly compound with 3 leaflets, sometimes a single leaf on stems; stems dark green and strongly 5-angled or ridged

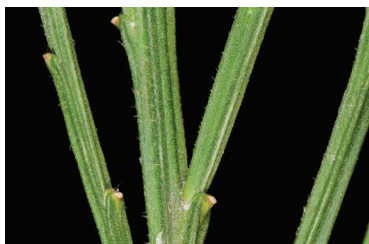
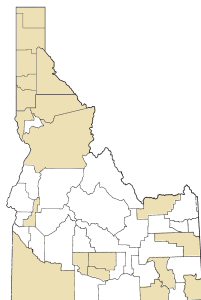
Flowers: Pale yellow to maroon-red, pealike, 1-inch long, singly or paired in leaf axils

Seeds: Pods flattened, dark brown, smooth, hairy along the margins, to 2 inches in length; seeds brown to black and oval shaped

HABITAT: Pastures, borders of forest, lawns, roadsides, and disturbed sites

SIMILAR PLANTS: Other brooms lack 5-angled stems; gorse has thorns

**Entire genus is prohibited. This example species is one most likely to be encountered.*



Yellow pealike flowers appear on dark-green, strongly angled stems with tiny leaves. Seedling leaves have 3 leaflets. Stem edges are strongly angled. Seed pods are flat with hairy margins.





Brooms • Genus: *Genista**

Example: French broom

Genista monspessulana

Fabaceae, the pea family

CATEGORY: Prohibited genera



BACKGROUND

- All brooms are prohibited; this is one of several invasive broom species
- Native to the Azores and surrounding Mediterranean region
- Introduced in mid-1800s as an ornamental
- Similar to Scotch broom, foliage and flowers toxic to some animals
- Seeds attract ants, which aid in dispersal
- Seeds remain viable at least 5 years in soil

DESCRIPTION: Upright shrub, usually <10 feet tall, but up to 16 feet tall

Roots: Deep, branched taproot

Leaves: Compound with 3 leaflets, oblong to ovate, mostly 0.4 to 0.8 inches long, with sparse to dense flattened short silvery hairs

Stems: Erect, dense, green, and covered with many silver, silky hairs; round with 8–10 prominent ridges

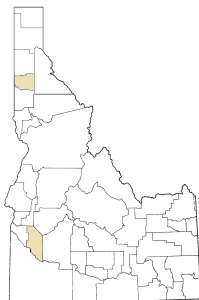
Flowers: Usually bright yellow, pealike, 0.2 to 0.3 inches long, in clusters of 4 to 10 flowers

Seeds: Pods contain 3–8 round to oval, shiny, smooth, black seeds ~0.07 to 0.1 inch long

HABITAT: Open, disturbed sites, such as logged or burned areas, roadsides, pastures and marginally disturbed grasslands; intolerant of heavy shade; drought resistant

SIMILAR PLANTS: Other broom species including Scotch, Spanish, Portuguese broom. Some cultivated French broom hybrids also may exist. Use prominent stem ridges to distinguish from other brooms.

**Entire genus is prohibited. This example species is one most likely to be encountered.*



Yellow pea-like flowers
on round stems with 8–10
prominent ridges. Leaflets
have short, silvery hairs. May
hybridize with ornamental
“sweet brooms.”



Brooms • Genus: *Spartium**

Example: Spanish broom

Spartium junceum

Fabaceae, the pea family

CATEGORY: Prohibited genera



BACKGROUND

- All brooms are prohibited; this is one of several invasive broom species
- Native to Mediterranean region; introduced to California in 1848 as ornamental; planted along CA mountain highways in late 1930s
- Flowers produce yellow dye and essential oil sometimes used in perfumery
- Seed dispersal by water, soil movement, human activities and animals
- Seeds remain viable for at least 5 years

DESCRIPTION: Shrub to small tree, 10–15 feet tall; mature plants have one to several trunks; considered less invasive than Scotch, French brooms

Roots: Taproots deep, branched; associated with nitrogen-fixing bacteria

Leaves: Compound with 3 leaflets, oblong to ovate, mostly 0.4 to 0.8 inches long, with sparse to dense flattened short silvery hairs

Stems: Simple, sparse, small (<0.5 to 1 inch long), linear to oval or lanceolate-shaped with smooth-margins; upper surface hairless; lower surface covered with flattened short hairs

Flowers: Pealike, usually bright yellow; up to 1 inch long; grow on both sides of main stems

Seeds: In pods 2–4 inches long, ~0.2 inches wide; covered with flat, long, silver, silky hairs; contains 10–15 oval, smooth reddish-brown seeds <0.2 inches long

HABITAT: Open disturbed sites, such as logged or burned sites, roadsides, and pastures; can invade somewhat undisturbed grasslands, woodlands, and open forests

SIMILAR PLANTS: Scotch and French broom; cylindrical stem shape distinguishes it from other brooms

**Entire genus is prohibited. This example species is one most likely to be encountered.*



Bright yellow pealike flowers. Seed pods are 2–4 inches long, narrow and covered with silky silver hairs. Shrub to small tree.





Buffalobur

Solanum rostratum

Solanaceae, the nightshade family

CATEGORY: Control

BACKGROUND

- Native to the Great Plains region of the U.S.
- Contaminant of bird seed
- Disperses by tumbling in the wind; seeds attach to animals or equipment
- Seed longevity not reported

DESCRIPTION: Annual with yellow spines and star-shaped hairs; up to 2 feet tall

Roots: Taproot

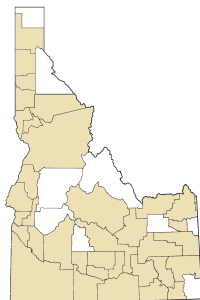
Leaves: Wavy lobed to the midrib and covered with starlike hairs; spiny midribs and leaf stalks

Flowers: Bright yellow, 1 inch across, with 5 petals

Seeds: Berries enclosed in a spiny bur; seeds black, flat, and wrinkled

HABITAT: Pastures, dry rangeland, roadsides, disturbed areas, and under bird feeders

SIMILAR PLANTS: Perennial horse nettles and nightshades



Spines on stems, leaves, and flowers make the plant untouchable. Seedling leaves have deeply lobed margins and prominent veins. Berries are enclosed in a spiny bur.





Canada thistle

Cirsium arvense

Asteraceae, the sunflower family

CATEGORY: Containment

BACKGROUND

- Native to Eurasia; introduced as a contaminant in crop seed
- Disperses by wind-carried seed (up to 1,000 yards) and creeping roots
- Seed longevity up to 10 years

DESCRIPTION: Erect perennial with spiny leaves; up to 3 feet tall

Roots: Vertical and creeping horizontal roots may be 20 feet deep and 15 feet across

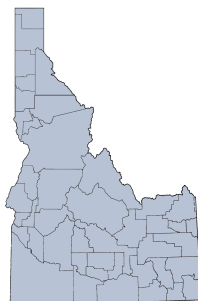
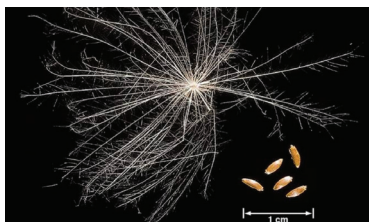
Leaves: Basal rosette and stem leaves oblong to lance-shaped, shallow-lobed, and toothed with spiny margins; upper leaf surface dark green, smooth; lower leaf surface light green with woolly hairs

Flowers: Numerous clustered flower heads; purplish-pink disk flowers

Seeds: Tan achenes with feathery bristles

HABITAT: Roadsides, cultivated fields, pastures, and rangelands

SIMILAR PLANTS: Bull thistle has stiff hairs on the upper leaf surface



Flowers are purple to lavender, occasionally white. First seedling leaves are oblong to egg-shaped. Leaves are wavy margined and spiny. Flower heads are numerous, small, and urn-shaped, and the bracts are spineless.



Common crupina

Crupina vulgaris

Asteraceae, the sunflower family

CATEGORY: Control

BACKGROUND

- Native to the Mediterranean region
- Reproduces by seed
- Disperses by means of floating seed and by rodents that cache seeds
- Seeds live less than 2 years

DESCRIPTION: Winter annual up to 3 feet tall; develops large infestations on rangelands

Roots: Fibrous

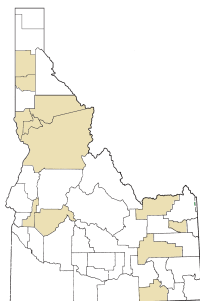
Leaves: Rosette and stem leaves pinnately lobed; lobes narrow and opposite; covered with short stiff hairs. Rosette leaves die as flowering starts

Flowers: Pink to purple disk flowers; cylindrical to urn-shaped flower heads borne on branch tips; bracts below flowers lance-shaped with entire margin

Seeds: Black-brown, cylindrical achene with a ring of black, bristly hairs at the point of attachment

HABITAT: Canyon grasslands, rangelands, and forests

SIMILAR PLANTS: Diffuse knapweed bracts have fringed or comblike margin with a spiny tip



Flowers are pink to purple in a compact, elongated head. Cotyledons (first leaves) have a distinctive bright purple midrib. Leaves are alternate and pinnately lobed.





Common/European frogbit

Hydrocharis morsus-ranae

Hydrocharitaceae, the tape grass family

CATEGORY: EDRR

BACKGROUND

- Introduced from Europe as a water garden plant; first introduced into the U.S. from Canada on boats and trailers
- Reproduces primarily from turions (vegetative propagules); each plant can produce up to 100 turions
- Travels between distant water bodies on boats and trailers

DESCRIPTION: Emergent, free-floating annual plant that in our colder climate can form dense infestations, shading any plants below the water surface

Roots: Well developed but not attached to sediment; has stolons

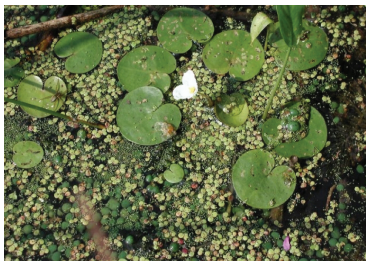
Leaves: Floating oval leaves, 1–2 inches wide, with leathery, heart-shaped bases

Flowers: White petals about 0.5 inch wide, above 3 green sepals; each plant has either male or female flowers, the males with 9–12 stamens

Seeds: Berry contains seeds about 0.04 inch long

HABITAT: Primarily ponds or lakes but also slow-moving streams

SIMILAR PLANTS: None



Leaves are oval and resemble lily pads.





Common reed (Phragmites)

Phragmites australis

Poaceae, the grass family

CATEGORY: Control

BACKGROUND

- Both native and introduced types, only the introduced are noxious
- Dense stands tend to decrease bird and mammal diversity
- Reproduces from seed and rhizomes
- Establishment from seed requires less than 2 inches of water
- Wind dispersal of seed could be farther than 300 feet
- Rhizomes can live up to 6 years; seed viability is low

DESCRIPTION: Perennial, warm-season grass; 6–15 feet tall

Roots: Fibrous; rhizomes more than 0.6 inch in diameter (rhizomes of natives less than 0.6 inch in diameter)

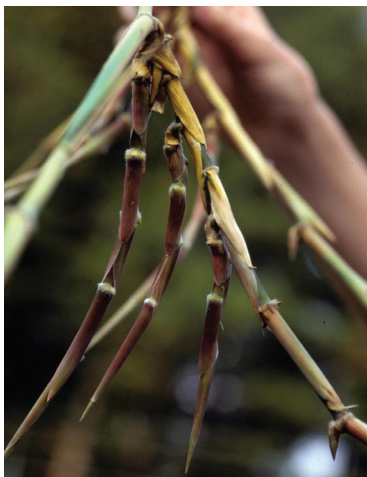
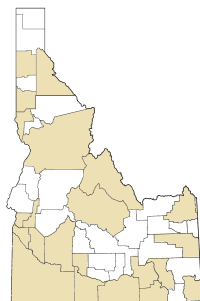
Leaves: Flat, hairless leaves are 6 inches to 2 feet in length and 0.4–2.4 inches wide

Flowers: Tawny-colored spikelets with tufts of silky hairs

Seeds: With tufts of silky hairs

HABITAT: Wet areas, often seasonally flooded

SIMILAR PLANTS: Lower stems are yellow in invasive strains and reddish brown or reddish purple in the native strain; first glume in spikelet is less than 0.14 inch in the invasive strains and more than 0.17 inch in the native



Seeds are light and disperse in the wind. Rhizomes allow dense stands to form. Grass blade angles away from the stem at the collar region.





Curlyleaf pondweed

Potamogeton crispus

Potamogetonaceae, the pondweed family

CATEGORY: Containment

BACKGROUND

- Introduced
- Plant decay during the summer can result in low-oxygen conditions that stress fish
- Reproduces primarily by turions that are 60 to 80% germinable and viable for several years
- Plant fragments on boats and trailers allow long-distance dispersal; long-distance dispersal is also possible by turions

DESCRIPTION: Aquatic perennial; begins to sprout in late fall and can grow through the winter; begins to break up in summer, scattering the turions

Roots: Underground structures include rhizomes that help anchor plants in the sediment and sprout new plants

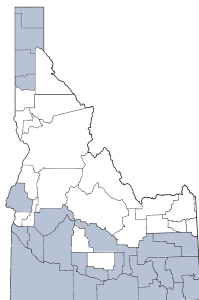
Leaves: Up to 3 inches long and 0.5 inch wide with wavy, fine-toothed margins

Flowers: Small flowers are arranged on dense, terminal spikes up to 2.75 inches long that extend above the water surface

Seeds: Fruits have a cone-shaped beak and a crownlike ridge; turions 0.25–0.75 inch long are produced on the root system

HABITAT: Shallow and deep waters

SIMILAR PLANTS: Clasp leaf pondweed, red pondweed



Turions are leaflike vegetative structures that form new plants. Leaves are up to 3 inches long with wavy margins. Dense infestations interfere with boating.





Dalmatian toadflax

Linaria dalmatica ssp. *dalmatica*

Scrophulariaceae, the figwort family

CATEGORY: Containment

BACKGROUND

- Introduced from Europe as a garden ornamental
- Produces nearly ½ million seeds
- Disperses short distances by means of wind-blown seed, particularly on snow, and by means of creeping roots
- Seeds live up to 10 years

DESCRIPTION: Perennial; erect stems up to 4 feet tall with creeping roots and snapdragonlike flowers

Roots: Vertical and creeping lateral roots

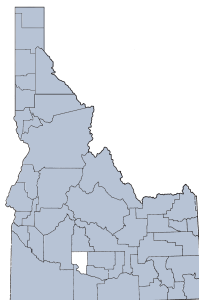
Leaves: Waxy, bluish-green, egg- to lance-shaped with tips tapering to a point; sessile, with base clasping the stem

Flowers: Bright yellow; 1–2 inches long including spur; throat and lower lip often tinged orange or red; racemes elongate at the tips

Seeds: Black to dark brown, ridged, and irregularly angled

HABITAT: Arid rangelands, pastures, and roadsides

SIMILAR PLANTS: Yellow toadflax has linear leaves



Bright yellow flowers with long spurs look like snapdragon flowers. Young plants have sessile leaves that are egg- to lance-shaped. Leaves are bluish-green and clasp the stem.





Diffuse knapweed

Centaurea diffusa

Asteraceae, the sunflower family

CATEGORY: Containment

BACKGROUND

- Native to Eurasia
- Fire stimulates seed germination
- Disperses by tumbling long distances in the wind
- Seed longevity not reported

DESCRIPTION: Annual, biennial, or short-lived perennial up to 3 feet tall; a single stem gives the plant a bushy appearance

Roots: Sturdy taproot

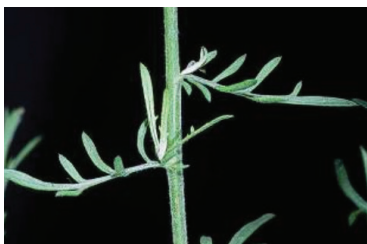
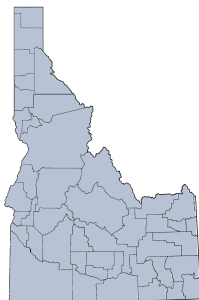
Leaves: Lower stem leaves up to 6 inches long and pinnately lobed; upper leaves linear

Flowers: White, pink, or sometimes purple disk flowers; bracts below the flower yellowish green with a light brown, comblike margin and short, stiff, central spine

Seeds: Gray to dark brown; tipped by plumes that fall off at maturity

HABITAT: Rangeland, pastures, sandy river shores, gravel banks, and disturbed sites

SIMILAR PLANTS: Squarrose knapweed central spine on bract below flower is curved downward; diffuse knapweed central spine is not bent



Flowers are generally white, but sometimes pink to lavender. Each floral bract is tipped with a long, slender spine and fringed with smaller spines. Rosette leaves are pinnately lobed and up to 6 inches long.



Dyer's woad

Isatis tinctoria

Brassicaceae, the mustard family

CATEGORY: Control

BACKGROUND

- Introduced from Europe as a source of blue dye
- Reproduces by seed
- Thought to disperse medium to long distances given the distances between patches in southeastern Idaho
- Seed longevity not reported

DESCRIPTION: Biennial, winter annual, or short-lived perennial; up to 3½ feet tall

Roots: Long taproot up to 3 feet deep

Leaves: Bluish-green with pale midvein; basal rosette leaves lance-shaped with rounded tip, slightly wavy margin, and base tapering to the stalk; stem leaves alternate, sessile, lanceolate, with base clasping the stem

Flowers: Flat-topped clusters of bright yellow, 4-petalled flowers

Seeds: Fruit pendulous, purplish-brown at maturity, teardrop shaped; one yellowish to orangish-brown seed per fruit

HABITAT: Rangeland, forest, pastures, cultivated fields, roadsides, and disturbed sites

SIMILAR PLANTS: None



Fruits are teardrop-shaped and purplish brown at maturity. Rosette leaves are elliptic to lance-shaped with the base tapering to the stalk. Leaves have white midribs and clasp the stem at their base.





Eurasian watermilfoil

Myriophyllum spicatum

Haloragaceae, the watermilfoil family

CATEGORY: Control

BACKGROUND

- Introduced from Eurasia as an aquarium plant
- Forms dense subsurface or surface mats
- Disperses by means of floating stem fragments, by rhizomes, and possibly by waterfowl
- Seed longevity not reported

DESCRIPTION: Submerged aquatic perennial; stems to 13–22 feet long, branching near the water surface; finely dissected, featherlike leaves

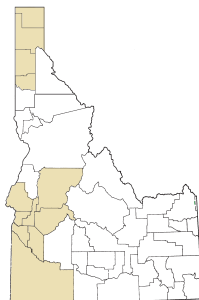
Roots: Rhizomes

Leaves: Dark green to brown, pinnately dissected, to 1¼ inch long; generally with more than 12 leaflet pairs per leaf, in whorls of 4 around the stem

Flowers: Erect flowering spike up to 6 inches long; pinkish inconspicuous male and female flowers in whorls around the stem

HABITAT: Ponds, lakes, streams, canals, and ditches

SIMILAR PLANTS: Northern watermilfoil generally has fewer than 12 leaflet pairs and develops turions (specialized buds)



Eurasian



Northern

The flowering stem is a pink spike up to 8 inches long held erect above the water. Eurasian watermilfoil has more leaf pair divisions (12 or more) and often a flatter leaf tip than northern watermilfoil.





Fanwort

Cabomba caroliniana

Cabombaceae, the water shields and fanworts

CATEGORY: EDRR

BACKGROUND

- Native to southern U.S. and South America
- Dense mats shade plants below and impede boating and fishing
- Reproduces from plant fragments or seeds; seeds in northern regions like Idaho may not be viable
- Plant fragments could disperse more than 300 feet in flowing water

DESCRIPTION: Aquatic perennial that is primarily submersed and rooted in sediment but sometimes forms oval leaves at the water surface; stems can reach 30 feet in length

Roots: Fibrous roots; short rhizomes

Leaves: Opposite, attached by a single petiole, finely divided and fan-shaped above the petiole; submersed leaves 1–2 inches across; leaves at the water surface are 2-inch ovals

Flowers: White to pink, solitary, with 3 petals and 3 sepals; 0.5–0.75 inch in diameter; arise from floating leaf axils

Seeds: Potentially not formed in northern climates

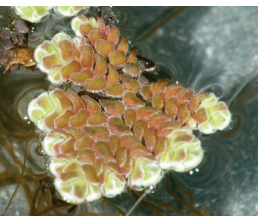
HABITAT: Lakes and ponds, occasionally rivers, usually along the shoreline initially

SIMILAR PLANTS: None



Flowers are white to pink with 3 petals and 3 sepals. Leaves are divided into sections that create a fanlike appearance.





Feathered mosquito fern

Azolla pinnata

Azollaceae, the mosquito fern family

CATEGORY: EDRR

BACKGROUND

- Reportedly introduced as a water garden ornamental
- Affects boating and reduces light to submersed vegetation; can sometimes double its mass in 3 days
- Decaying plant material can increase nitrogen levels and lower oxygen levels
- Reproduces via spores
- Can move more than 100 yards with currents or winds

DESCRIPTION: Annual, free-floating plant, 0.6–1 inch across; resembles moss more than a fern

Roots: Small in diameter; feathery

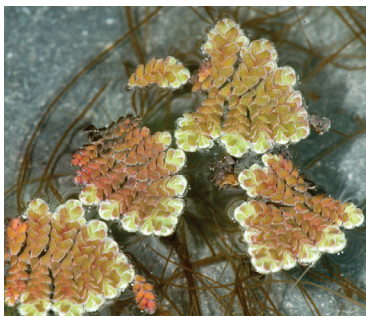
Leaves: 0.04–0.08 inch long leaves, each with 2 lobes that overlap in pairs; upper lobes tend to green with a reddish tint and the lower lobes are translucent and brown

Flowers: Fruiting body containing spores is round, 0.04 inch in diameter, and located on the underside of side branches

Spores: 2 types—1 microscopic and the other 0.005–0.02 inch in diameter

HABITAT: Still or flowing water; survives in moist soil temporarily

SIMILAR PLANTS: None



Arrangement of small leaves
along the stem gives the
appearance of a larger,
triangle-shaped leaf.





Field bindweed

Convolvulus arvensis

Convolvulaceae, the morning glory family

CATEGORY: Containment

BACKGROUND

- Eurasian native that has naturalized in North America
- One of the most noxious weeds in agriculture
- Disperses by means of creeping roots and for short distances by seed
- Seeds remain viable for up to 50 years

DESCRIPTION: Perennial vine with deep creeping roots and twining stems up to 6 feet long; forms dense mats or climbs over other plants

Roots: Lateral creeping roots to 9 feet deep

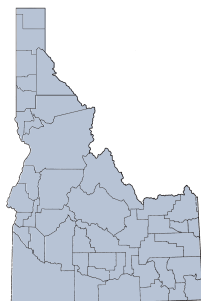
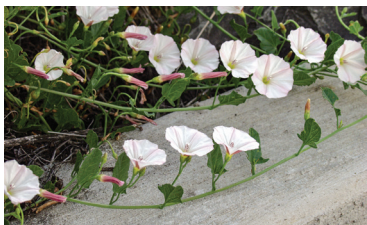
Leaves: Alternate, arrowhead-shaped, dull green, to 2 inches long; sometimes covered with whitish powder

Flowers: White or pinkish, funnel-shaped, in leaf axils

Seeds: Dark gray-brown with irregular bumps

HABITAT: Cultivated fields, pastures, lawns, roadsides, and disturbed sites

SIMILAR PLANTS: Wild buckwheat is an annual with pointed leaves and papery leaf sheaths



Flowers are white or pinkish and funnel-shaped, leaves are arrowhead-shaped, and stems are twisted. Seedlings have ovate cotyledons (first leaves) with a notched tip. Stems twine around other plants.





Flowering rush

Butomus umbellatus

Butomaceae, the flowering rush family

CATEGORY: Containment

BACKGROUND

- Introduced
- Sold commercially for use in garden pools
- A problem in the Great Lakes and in Flathead Lake, Montana
- Reproduces from rhizomes and seeds
- Small seeds disperse more than 100 yards in flowing water

DESCRIPTION: Aquatic perennial; emerged or submersed plants grow to 5 feet tall and form dense stands

Roots: Thick, fleshy, and with fleshy rhizomes

Leaves: Lanceolate, triangular in cross section, and up to 40 inches long

Flowers: Pink with 3 sepals and 3 petals; arranged in umbels

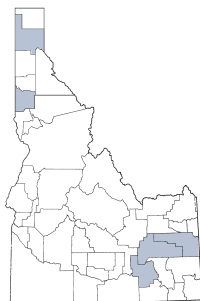
Seeds: Brown; 0.04 inch long with ridges along the long axis

HABITAT: Permanently to seasonally flooded areas; survives in water up to 20 feet deep

SIMILAR PLANTS: Bulrushes and rushes when not flowering



1mm



Seeds are small, ridged, and brown. Fleshy rhizomes sprout closely spaced plants. Leaves are triangular in cross section.





Giant hogweed

Heracleum mantegazzianum

Apiaceae, the carrot or parsley family

CATEGORY: EDRR



BACKGROUND

- Native to southwestern Asia; introduced as an ornamental
- Sap causes photodermatitis that causes blistering
- Disperses less than 1 foot from new crowns on roots; seeds move in water and attach to animals
- Seeds remain viable for 10 years

DESCRIPTION: Biennial or perennial up to 15 feet tall with purple-blotched stems covered with white hairs

Roots: Tuberous

Leaves: 5 feet long to 2½ feet wide; pinnately compound with 3 deeply lobed and toothed leaflets

Flowers: White, compound; flat-topped umbel 2½ feet across

Seeds: Elliptic to ovate, flattened, with winged ribs, covered with short hairs

HABITAT: Riparian areas and disturbed moist sites

SIMILAR PLANTS: Cow parsnip, a widespread native, lacks purple blotches on stems and leaf stalks and has fewer flower rays



White flowers form a flat-topped umbel. Three-lobed leaves can be 5 feet long. Stems have purple blotches.





Giant knotweed

Polygonum sachalinense

Polygonaceae, the buckwheat family

CATEGORY: Control

BACKGROUND

- Introduced from Japan and Sakhalin Island as a garden ornamental
- Hybridizes with Japanese knotweed
- Reproduces by seed, rhizomes, and stem fragments that root at the nodes
- Disperses by means of floating stem and rhizome fragments and short distances by seed
- Seed longevity not reported

DESCRIPTION: Clumping perennial with hollow stems; up to 12 feet tall

Roots: Long, creeping rhizomes up to 18 feet long

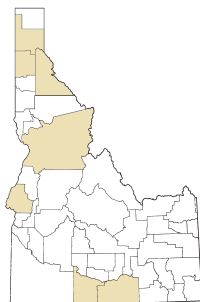
Leaves: Broadly lance-shaped, 6-12 inches long, with a heart-shaped base

Flowers: Panicles in the leaf axils with numerous small white flowers

Seeds: Glossy; brown to dark brown

HABITAT: Moist sites, wetlands, and riparian areas

SIMILAR PLANTS: Bohemian and Japanese knotweeds have smaller leaves; Japanese knotweed has flat leaf bases



Flowers are small, white, and grow where the leaf attaches to the stem. Leaves are heart-shaped and up to 12 inches long.





Giant salvinia

Salvinia molesta

Salviniaceae, the floating fern family

CATEGORY: EDRR

BACKGROUND

- Introduced
- Capable of doubling its mass in 4–10 days
- Decaying vegetation can reduce oxygen levels in the water
- Reproduces by plant fragmentation
- Plants float with water currents and can disperse farther than 100 yards

DESCRIPTION: Free-floating fern; dense infestations shade submersed plants; lacks flowers and seeds

Roots: Feather-like, resemble leaves

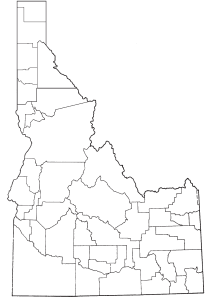
Leaves: 0.5–1.5 inches long, oblong, with a distinct mid rib and stiff hairs on the upper surface; hairs divide into 4 sections that fuse at the tip, creating an eggbeater-like appearance; when plants pack together, the leaves orient vertically

Sporangia: Egg-shaped sporangia are located on the submersed leaves

Seeds: None

HABITAT: Still and flowing waters

SIMILAR PLANTS: None



Roots appear leaflike. Sporangia are located on submersed leaves; they contain no spores. Leaves in dense infestations pack tightly together.





Hoary alyssum

Berteroa incana

Brassicaceae, the mustard family

CATEGORY: Containment



BACKGROUND

- Native to Europe; introduced about 1900 to North America
- Poisonous to horses, causing leg swelling, fever
- Lacks dispersal adaptations but possibly moved by animals; reportedly disperses long distances
- Seed longevity not reported

DESCRIPTION: Annual to short-lived perennial with multiple stems from the base; up to 2 feet tall; covered all over with grayish-green, star-shaped hairs

Roots: Taproot

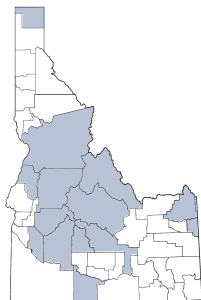
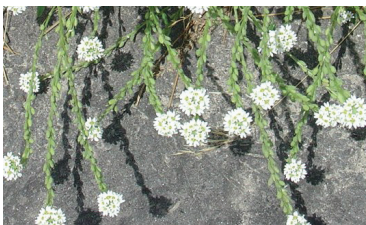
Leaves: Alternate, linear-elliptic, with entire margins; upper leaves sessile

Flowers: 4 white, deeply notched petals per flower; flower stalk elongates during fruiting

Seeds: Seedpods flattened and oval

HABITAT: Roadsides, disturbed areas, and canyon grassland to wet meadows

SIMILAR PLANTS: None



White flowers with 4 notched petals appear to have 8 petals. Seedling leaves are oblong to oval. Plant is grayish-green. Stem leaves attach at the leaf base.



Houndstongue

Cynoglossum officinale

Boraginaceae, the borage family

CATEGORY: Containment



BACKGROUND

- Native to Europe; introduced through crop seed
- Toxic to livestock, attacking the liver and producing neurological effects
- Reproduces by seed
- Hooked hairs on seed attach to animals, allowing long-distance dispersal
- Seeds live less than 5 years

DESCRIPTION: Biennial or short-lived perennial up to 3 feet tall

Roots: Taproot

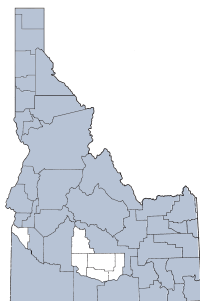
Leaves: Basal leaves forming the first year are narrowly lance-shaped, 4–8 inches long, hairy, and rough; upper stem leaves alternate, narrowly lance-shaped

Flowers: Reddish-purple, 5-lobed, in upper leaf axils

Seeds: 4 egg-shaped seeds, or nutlets, with hooked prickles

HABITAT: Open disturbed moist places, roadsides, pastures, and wet grasslands

SIMILAR PLANTS: None



Flowers point down and are reddish-purple. Leaves are lance-shaped and hairy. Seeds are clustered in sets of 4 and have hooked prickles.





Hydrilla

Hydrilla verticillata

Hydrocharitaceae, the waterweed family

CATEGORY: EDRR

BACKGROUND

- Native to Asia; introduced as an aquarium plant
- Considered the most problematic aquatic plant in the U.S.
- Reproduces by specialized buds in leaf axils, tubers attached to roots, and above and belowground stems
- Disperses by means of buds floating with the current; tubers provide for short-distance dispersal
- Seed longevity not reported

DESCRIPTION: Submerged aquatic perennial with slender branched stems up to 25 feet long; forms dense stands or subsurface mats

Roots: Slender; develop at certain nodes

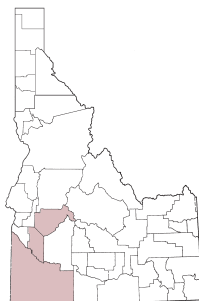
Leaves: Sessile; linear to lance-shaped; $\frac{1}{4}$ –1 inch long and $\frac{1}{16}$ – $\frac{1}{4}$ inch wide; in whorls of 5–8; leaf margins saw-toothed

Flowers: 3 white petals; attached to base of leaf

Seeds: Elliptic, smooth, and brown; fruit is constricted between seeds

HABITAT: Canals, rivers, ponds, lakes, and reservoirs

SIMILAR PLANTS: Brazilian elodea has 4–6 leaves per whorl; common elodea has 2–3 leaves per whorl and flowers that float at the surface



Leaves occur in whorls of 4–8; the leaf margin is saw-toothed. Flowers and specialized buds occur where the leaf attaches to the stem. Small, rounded tubers can start new plants (bottom photo, lower left).





Iberian starthistle

Centaurea iberica Spreng.
Asteraceae, the sunflower family

CATEGORY: EDRR



BACKGROUND

- Native to eastern Europe along the Mediterranean Sea
- Toxic to horses, causing "chewing disease"
- Reproduces by seed
- Disperses short distances; its pappus prevents wind dispersal but helps seed attach to animals for wider dispersal
- Seeds are viable for at least 3 years

DESCRIPTION: Acts as an annual or perennial; grows to 3 feet tall from a stem that bolts in spring to early summer

Roots: Taproot

Leaves: Hairy, 4- to 8-inch-long leaves have lobed margins and resin dots; new leaves sparsely hairy and not green; rosette with spines in the center forms prior to stem bolting

Flowers: Nearly white to pink or pale purple; within a head; bracts below have frayed margins with a ½- to less than 1-inch-long spine

Seeds: Achenes light colored, possibly with brown streaks; seeds have a pappus less than 1/10 inch long

HABITAT: Moist meadows, streambanks, pasture, grass hay

SIMILAR PLANTS: Purple starthistle; yellow starthistle has yellow flowers; all three species have spines on the bracts



White to pale purple flowers have spines on the bracts. Seeds are white to brown with a fringe of hairs called a pappus. Rosette attaches to the taproot. Plants bolt from rosettes in late spring to early summer.



Japanese knotweed

Polygonum cuspidatum

Polygonaceae, the buckwheat family

CATEGORY: Control

BACKGROUND

- Introduced from Japan and China as an ornamental
- Hybridizes with giant knotweed
- Reproduces by rhizomes and stem fragments that root at the nodes
- Disperses by means of floating stem and rhizome fragments and short distances by seed
- Crown lives more than 5 years, seeds likely at least 4 years

DESCRIPTION: Clumping perennial with hollow stems; up to 9 feet tall

Roots: Long, creeping rhizomes up to 18 feet long

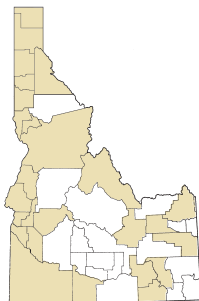
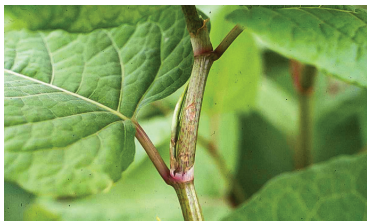
Leaves: Broadly egg-shaped with pointed tip and flat base; twigs zig-zag; purple-spotted stems have sheathing membranous stipules

Flowers: Drooping panicle at the leaf axils with numerous small white flowers

Seeds: Glossy; brown to dark brown

HABITAT: Disturbed moist sites, wetlands, and riparian areas

SIMILAR PLANTS: Bohemian knotweed has erect flowers; giant knotweed has larger, more elongated leaves with a heart-shaped base



Drooping clusters of white flowers grow where the leaf attaches to the stem. Leaf base is straight.





Johnsongrass

Sorghum halepense

Poaceae, the grass family

CATEGORY: Control



BACKGROUND

- Native to the Mediterranean; introduced as a hay and pasture grass
- Potentially poisonous to livestock; can produce toxic levels of hydrocyanic acid
- Tenth most noxious weed in the world
- Disperses by means of creeping rhizomes and rhizomes spread by harvesting equipment
- Seeds live at least 2 years

DESCRIPTION: Coarse, tufted perennial grass up to 6 feet tall

Roots: Fibrous rhizomes with brown scales at the nodes

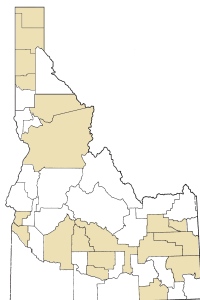
Leaves: Bright green, up to 1 inch wide, with scabrous margins and a prominent whitish midvein; sheath is open; ligules membranous with a hairy fringe

Flowers: Large, open, pyramid-shaped panicles up to 12 inches long; spikelets mature to dark reddish or purplish brown

Seeds: Reddish brown to black; oval shaped

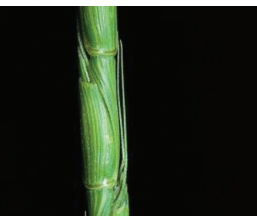
HABITAT: Cultivated fields, pastures, ditches and canal banks, and roadsides

SIMILAR PLANTS: Shatter cane is an annual without rhizomes



Ligules are membranous, with a short fringe of hairs. Plant produces a mass of thick rhizomes.





Jointed goatgrass

Aegilops cylindrica

Poaceae, the grass family

CATEGORY: Containment

BACKGROUND

- Native to southern Europe and western Asia
- Readily hybridizes with its close relative, wheat
- Reproduces by seed
- Harvesting and grain transport equipment disperse seeds
- Seeds remain viable for at least 5 years

DESCRIPTION: Winter annual grass with spikelets that resemble winter wheat; up to 4 feet tall

Roots: Fibrous

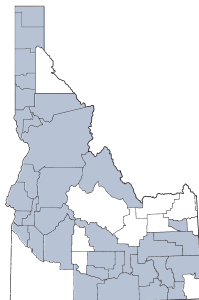
Leaves: Flat blades about ½ inch wide and 4 inches long with evenly spaced fine hairs along the margins and down the sheath opening; ligule short and membranous; auricles short and hairy

Flowers: Cylindrical spikes; spikelets in a series of joints with uppermost joints tipped by straight awn

Seeds: Reddish to light brown, resembling grains of winter wheat; seed often attached to seedling

HABITAT: Wheat fields, pastures, rangeland, roadsides, and fencerows

SIMILAR PLANTS: Winter wheat spikes do not break apart between the nodes



Seed head is a narrow, cylindrical spike that contains 2–12 spikelets (joints). Hairs extend outward from the leaf edges, and hair also appears below the collar.





Leafy spurge

Euphorbia esula

Euphorbiaceae, the spurge family

CATEGORY: Containment



BACKGROUND

- Native to Eurasia
- Milky sap toxic to humans and livestock
- One of the most tenacious weeds in the U.S.
- Reproduces by seed and from creeping roots
- Disperses less than 15 feet by expelled seeds; survives ingestion in sheep for potential long-distance dispersal
- Seeds remain viable for at least 8 years

DESCRIPTION: Erect perennial up to 2½ feet tall with roots exceeding 20 feet in depth; contains milky white sap

Roots: Long, creeping horizontal and long vertical; new shoots can develop from pinkish root buds

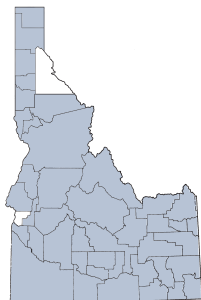
Leaves: Nearly opposite or in whorls; linear to narrowly lance-shaped; sessile; up to 4 inches long

Flowers: A pair of showy, yellowish-green, heart-shaped bracts enclose small flower clusters

Seeds: Egg-shaped to oblong, with yellowish appendage near the end of attachment; contained in 3-chambered capsule

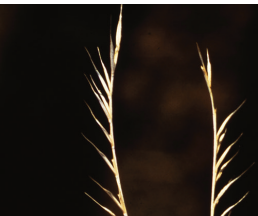
HABITAT: Rangeland, pastures, roadsides, and riparian areas

SIMILAR PLANTS: Young yellow toadflax does not produce milky latex



Heart-shaped bracts appear to be a yellowish flower. Stems and leaves exude a milky juice when broken.





Matgrass

Nardus stricta

Poaceae, the grass family

CATEGORY: Control

BACKGROUND

- Native to eastern Europe
- Not palatable to most livestock
- Eliminates other vegetation within each dense tuft
- Disperses medium to long distances in spring or fall when animal hooves break mat fragments
- Seeds remain viable for up to 2 years

DESCRIPTION: Slow-growing perennial bunchgrass with tufts 3 feet or more across and stems up to 8 inches tall

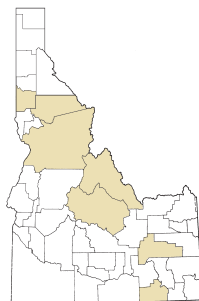
Roots: Fibrous

Leaves: Tightly folded blades bend at a right angle to the stem; ligule short and membranous; auricles lacking

Flowers: Slender spikes; straw-colored spikelets tipped by short, straight awns occur on one side of the stem

HABITAT: Wet meadows

SIMILAR PLANTS: Sometimes confused with young fine-leaved bunchgrasses and tufted sedges



Spikelets occur along 1 side of the stem. Tuft of crowded stems grows at ground level. The leaf blade bends at nearly a right angle to the stem.





Meadow knapweed

Centaurea debeauxii

Asteraceae, the sunflower family

CATEGORY: Control

BACKGROUND

- Native to Europe
- Used as a forage in Oregon in the 1950s
- Hybrid from black knapweed and brown knapweed
- Dispersal not reported, likely similar to spotted knapweed
- Seed longevity not reported

DESCRIPTION: Bushy perennial up to 3½ feet tall

Roots: Sturdy taproot

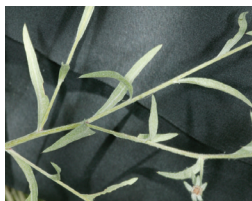
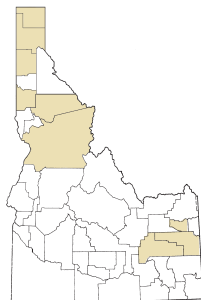
Leaves: Basal rosette leaves entire, toothed, or lobed and up to 4 inches long; stem leaves narrow, lance-shaped, sessile, and covered with short stiff hairs

Flowers: Pink to reddish-purple disk flowers; flower head solitary at end of stem and up to ¾ inch wide; tan to dark-brown bracts subtend flower head; bract margins a comblike fringe to a blunt ruffle

Seeds: Tan achene with fine hairs

HABITAT: Wet meadows, pastures, forest openings, roadsides, and waste areas

SIMILAR PLANTS: Similar to black and brown knapweeds, whose bracts are not spiny and have comblike margins



Broad flower heads are free of spines. Early basal rosette leaves are lance-shaped, entire. Multiple branching stems support pink to reddish-purple solitary flowers. Stem leaves are covered with short, stiff hairs.



Mediterranean sage

Salvia aethiopsis

Lamiaceae, the mint family

CATEGORY: Control

BACKGROUND

- Introduced from Europe, possibly as an alfalfa seed contaminant
- Flowering stems disperse long distances in the wind
- Seed longevity not reported

DESCRIPTION: Biennial or short-lived perennial up to 2 feet tall with crushed leaves smelling like sage

Roots: Taproot with fibrous lateral roots

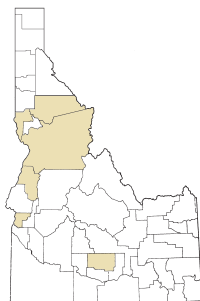
Leaves: Gray-green, ovate to triangular, lobed or deeply toothed, and up to 12 inches long on stalks nearly as long; leaf surfaces and stems covered with fine, white woolly hairs

Flowers: Irregular, whitish to pale yellow, in whorls of 5-10; flowering stems branch near the top into broad panicles

Seeds: 4 egg-shaped, smooth brown nutlets per flower

HABITAT: Dry areas, rangelands, and sagebrush communities

SIMILAR PLANTS: Rosettes of common mullein do not smell like sage



Leaves are gray-green with wooly white hairs. Flowers are white to pale yellow and arranged like a candelabra.



Milium

Milium vernale

Poaceae, the grass family

CATEGORY: Containment

BACKGROUND

- Native to southern Europe and western Asia
- Problem weed in winter wheat
- Reproduces exclusively by seed
- Disperses as a contaminant in grain
- Seed longevity not reported

DESCRIPTION: Winter annual grass up to 2½ feet tall

Roots: Fibrous

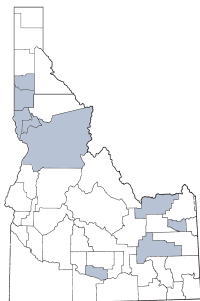
Leaves: Flat; to ¼ inch wide and 4 inches long; veins and margins appear roughened; ligules membranous, to ¼ inch long; auricles lacking

Flowers: Open panicle up to 8 inches long; 1 awnless spikelet, up to ⅛ inch long, on the tip of each panicle branch

Seeds: Single, hard, and shiny

HABITAT: Cultivated fields and pastures

SIMILAR PLANTS: None



Shiny seeds are shed before winter wheat matures.





Musk thistle

Carduus nutans

Asteraceae, the sunflower family

CATEGORY: Control

BACKGROUND

- Native to Eurasia; introduced as an ornamental
- Reproduces by seed
- Seeds disperse in wind as far as 50 yards
- Seeds remain viable for at least 10 years

DESCRIPTION: Biennial or winter annual with prickly leaves and prickly winged stems; up to 5 feet tall

Roots: Long taproot

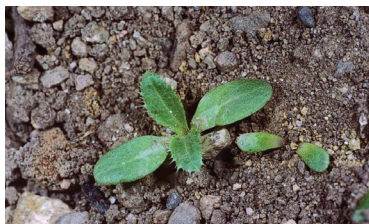
Leaves: Basal leaves up to 12 inches long, oval to elliptic, deeply lobed, with prickly toothed margins; stem leaves alternate, reduced, smooth to sparsely hairy

Flower: Purple to pink disk flowers, 1½–3 inches in diameter, solitary at the stem tips, often nodding; spine-tipped bracts subtend the flowerhead

Seeds: Yellowish-brown, ⅜-inch long, with hairlike plume

HABITAT: Rangeland, pastures, stream banks, and roadsides

SIMILAR PLANTS: Canada thistle is a perennial with creeping roots, Scotch thistle has receptacles that are pitted and not covered with bristles, and plumeless thistle has a spiny winged stem below the flower head



Large showy flowers are flat, nodding, and surrounded by numerous bracts. Shiny seeds have hairlike plumes. Seedling leaves are oblong to elliptic with prickly toothed margins. Leaves extend onto the stem, giving it a winged appearance.



Orange hawkweed

Hieracium aurantiacum

Asteraceae, the sunflower family

CATEGORY: Control

BACKGROUND

- Native to Europe; introduced as an ornamental
- Reproduces by seeds and vegetatively by aboveground stems and rhizomes
- Seeds disperse at least 250 yards in the wind
- Seed longevity not reported; likely short-lived (several years)

DESCRIPTION: Perennial with hairy stems and leaves, orange dandelionlike flowers, and white milky sap

Roots: Fibrous roots, rhizomes, and stolons

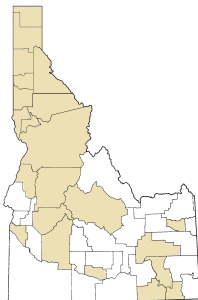
Leaves: Basal leaves hairy, oblong-elliptic to lance-shaped; stems covered with black hairs, leafless, occasionally with a small leaf near the midpoint

Flowers: Orange, in dense to open clusters; bracts covered with glandular and black hairs subtend the flowers

Seeds: Dark brown to black; ribbed with white plumes

HABITAT: Meadows, rangelands, pastures, open forest, and disturbed sites

SIMILAR PLANTS: Yellow hawkweed is difficult to distinguish without flowers



Flowers are bright red-orange, the only orange-flowered hawkweed. Seedling leaves are oval to elliptic with bases tapering to the stalk. Bristly, mostly leafless stems arise from a basal rosette of leaves.





Oxeye daisy

Leucanthemum vulgare

Asteraceae, the sunflower family

CATEGORY: Containment

BACKGROUND

- Introduced from Europe as a garden ornamental
- Spread as a contaminant of grass and legume seed and in commercial wildflower packets
- Reproduces by seed and vegetatively from rhizomes
- Disperses short distances, likely less than 4 yards
- Most seeds die after 6 years but some survive to 39 years

DESCRIPTION: Perennial with numerous stems arising from the base; up to 3 feet tall

Roots: Shallow, creeping rhizomes

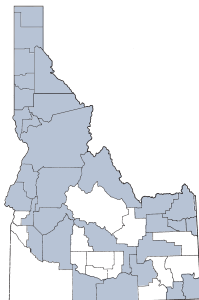
Leaves: Basal leaves stalked, spatula-shaped, with toothed to deeply lobed margins; upper leaf stalks are short and clasp the stem

Flowers: Solitary daisylike flower heads with white ray flowers and yellow disk flowers

Seeds: Dark brown to black achenes with ribs

HABITAT: Grasslands, meadows, pastures, and roadsides

SIMILAR PLANTS: None



White ray flowers (outer petals) surround inner yellow disk flowers. Leaves at the plant base are spatula-shaped and lobed.



Parrotfeather milfoil

Myriophyllum aquaticum

Haloragaceae, the watermilfoil family

CATEGORY: Control

BACKGROUND

- Introduced from South America as an aquarium plant and pond ornamental
- Develops colonies that form large subsurface or surface mats
- Floating stem fragments establish new plants; potentially long-distance dispersal
- Seed longevity not reported

DESCRIPTION: An emerged perennial with stems up to 15 feet long

Roots: Creeping rhizomes; fibrous roots at nodes on stem fragments

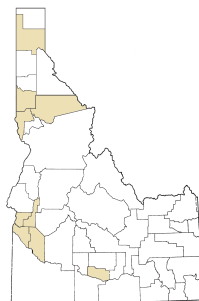
Leaves: Light gray-green, pinnately dissected in a featherlike pattern, with 13 leaflet pairs or more; in whorls of 5–6 around the stem; flower spike stems lie parallel to the water surface

Flowers: Inconspicuous, translucent white, in the axils of the upper submerged and emerged leaves

Seeds: Fruits not known to develop on introduced plants

HABITAT: Ponds, lakes, rivers, canals, and ditches

SIMILAR PLANTS: Northern watermilfoil has 13 or fewer leaflet pairs, flower spike stem that remains slender and erect near the water surface, and turions



Flowers occur in the axils of the leaves. Rhizomes at nodes allow the plant to form mats. Leaves are gray-green in whorls of 5 or 6. Leaves appear featherlike.





Perennial pepperweed

Lepidium latifolium

Brassicaceae, the mustard family

CATEGORY: Containment

BACKGROUND

- Native to southern Europe and western Asia
- Reproduces by seed and creeping roots
- Disperses long distances when adjacent to water
- Seed longevity not reported but likely short-lived

DESCRIPTION: Perennial to 6 feet tall; creeping roots

Roots: Long, creeping rhizomes to a depth of 9 feet

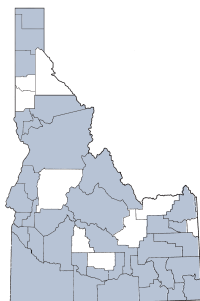
Leaves: Green to gray-green, waxy, with a prominent whitish midvein; basal leaves up to 12 inches long, stalked, and larger and wider than stem leaves; stem leaves alternate, sessile, oblong to lance-shaped, with saw-toothed margins

Flowers: Numerous small, white, 4-petalled flowers in dense clusters at the branch tips; inflorescences pyramid-shaped to rounded on top

Seeds: Pods flattened, round to ovate, slightly hairy, 1/16-inch in diameter; seeds reddish brown and oval-shaped with a shallow groove and rough surface

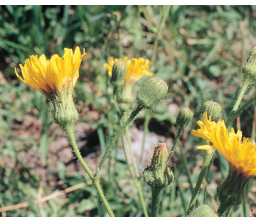
HABITAT: Riparian areas, meadows, flood plains, cropland, irrigation ditches, and roadsides

SIMILAR PLANTS: None



Tiny white flowers occur in tight clusters. Basal leaves are stalked and lance-shaped.





Perennial sowthistle

Sonchus arvensis

Asteraceae, the sunflower family

CATEGORY: Control

BACKGROUND

- Native of western Asia and Europe
- Disperses short distances by means of creeping roots and 10 yards by seed
- Seeds remain viable for at least 3 years

DESCRIPTION: Erect perennial up to 6 feet tall branching in the upper portion of the plant; white milky sap

Roots: Rhizomes

Leaves: Lower leaves entire to deeply lobed, with prickly toothed margins; upper leaves have basal clasping lobes that are rounded

Flowers: Yellow dandelionlike flowers cluster at stem tips; flower heads smooth or with gland-tipped hairs

Seeds: Reddish-brown achene is slightly flattened, ribbed, traverse wrinkled, and tipped with white plumes

HABITAT: Cultivated fields, riparian areas, meadows, pastures, gardens, roadsides, and disturbed sites

SIMILAR PLANTS: Spiny sowthistle and annual sowthistle are both annuals with a taproot; annual sowthistle's upper leaves have pointed basal clasping lobes



Dandelionlike leaves have prickly edges. Roots are creeping.





Plumeless thistle

Carduus acanthoides

Asteraceae, the sunflower family

CATEGORY: Containment

BACKGROUND

- Introduced from Eurasia
- Hybridizes with musk thistle
- Disperses within a few yards of the parent
- Seed longevity not reported

DESCRIPTION: Biennial up to 4½ feet tall

Roots: Long, thick taproot

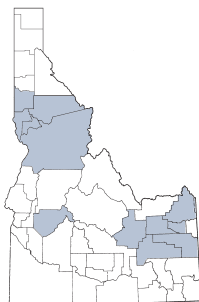
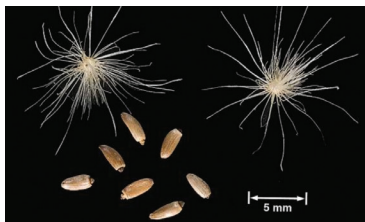
Leaves: Basal leaves elliptic to lance-shaped, pinnately lobed, with prickly toothed margins; stem leaves smaller, alternate, hairy and prickly; stems spiny and winged

Flowers: Purple disk flowers, ½-1 inch in diameter, singly or clustered on flower stalks

Seeds: Glossy golden to brown achenes with stripes

HABITAT: Pastures, grasslands, and roadsides; drier sites than musk thistle

SIMILAR PLANTS: Musk thistle flowers are larger and lack the spiny winged stem below the flower head



Flowers are purple in flower heads up to 1 inch across. Leaves are pinnately lobed and prickly. Stems are winged and spiny.



Poison hemlock

Conium maculatum

Apiaceae, the carrot family

CATEGORY: Containment



BACKGROUND

- Introduced from Europe as a garden ornamental
- Highly toxic to humans and animals
- Seeds fall within 3 yards of parent; disperses long distances in water
- Seed longevity is about 3 years

DESCRIPTION: Erect biennial up to 9 feet tall with fernlike leaves and hollow stems mottled with purple spots; has a disagreeable musty odor

Roots: Thick, white taproot

Leaves: First-year basal rosette leaves shiny green, triangular, 2–3 times dissected or pinnately lobed, compound, to 12 inches long; upper stem leaves similarly shaped but shorter

Flowers: Small, white, in umbrella-shaped clusters about 3 inches across

Seeds: Fruit grayish brown, flattened, and ridged; separated into 2 halves, each with one seed

HABITAT: Roadsides, pastures, fields, ditches, riparian areas, and disturbed, often moist, sites

SIMILAR PLANTS: Western water hemlock lacks purple spots and streaking on stems



White flowers are borne in many umbrella-shaped clusters. First year's rosette has fernlike, pinnately divided leaves. Stem is mottled with purple splotches.





Policeman's helmet

Impatiens glandulifera

Balsaminaceae, the impatiens family

CATEGORY: EDRR

BACKGROUND

- Native to Himalayan region of Asia; introduced as a garden ornamental
- Considered invasive in the British Isles, whose climate is similar to the Pacific Northwest's
- Seed pods eject seeds as far as 15 feet; seeds from plants near water disperse long distances
- Seeds remain viable at least 2 years

DESCRIPTION: Herbaceous annual 6–10 feet tall with smooth, hollow stems tinged purple or reddish

Roots: Shallow, fibrous taproot

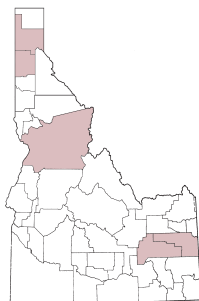
Leaves: Opposite, oblong to egg-shaped, sharply toothed, often in whorls of 3

Flowers: Orchidlike, white or pink to purple, in clusters from the leaf axils

Seeds: Black, large ($\frac{1}{8}$ – $\frac{1}{4}$ inch)

HABITAT: River edges, wetlands, and riparian areas

SIMILAR PLANTS: None



Flower shape resembles a British police helmet. Flower color ranges from white to all shades of pink to purple. Seed capsules explode when moist. Toothed leaves attach to the stem in pairs and are sometimes whorled.





Puncturevine

Tribulus terrestris

Zygophyllaceae, the caltrop family

CATEGORY: Containment



BACKGROUND

- Introduced from the Mediterranean region
- Stout-spined burs injure humans and animals and puncture bicycle tires
- Potentially toxic to livestock
- Disperses medium to long distances, lodging in feet of animals or tires
- Seeds can survive about 20 years

DESCRIPTION: Prostrate summer annual with branched, reddish-brown stems up to 3 feet long; forms dense mats

Roots: Slender taproot

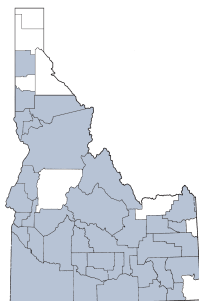
Leaves: Opposite, to 2 inches long; even pinnately lobed; leaflet oblong; 3–7 leaflet pairs per leaf

Flowers: Bright yellow with 5 petals; solitary in leaf axils

Seeds: Fruits are gray to yellowish tan, roughly circular burs that split into 5 sections, each with 2 stout, divergent spines

HABITAT: Disturbed sites, pastures, cultivated fields, roadsides, and walkways

SIMILAR PLANTS: None



Yellow flowers mature to produce spiny burs. Seedling leaves are pinnately compound with hairs.





Purple loosestrife

Lythrum salicaria

Lythraceae, the loosestrife family

CATEGORY: Containment

BACKGROUND

- Native to Europe; introduced to the U.S. as an ornamental
- New shoots grow from the woody crown in spring
- Seeds disperse up to 10 feet; seeds from plants adjacent to water disperse long distances with currents
- Seed longevity is at least 3 years

DESCRIPTION: Semi-aquatic perennial with showy pinkish-purple flower spikes; up to 8 feet tall; stems branched and square or 5-angled

Roots: Spreading rhizomes

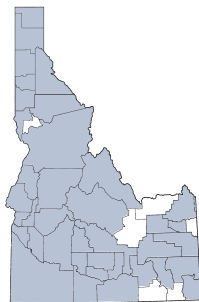
Leaves: Lance-shaped with smooth margins, sessile, mostly opposite or whorled

Flowers: Bright pinkish-purple spikes; petals with wrinkled margins

Seeds: Numerous, reddish brown capsules that are oval to triangular and flattened

HABITAT: Wetlands, stream banks, canals, ditches, and pond edges

SIMILAR PLANTS: Other garden loosestrife species



Purple petals are noticeably crumpled. Stems are square and much branched, bearing opposite or whorled lance-shaped leaves.





Purple starthistle

Centaurea calcitrapa L.

Asteraceae, the sunflower family

CATEGORY: EDRR



BACKGROUND

- Native to southern Europe
- Toxic to horses, causing "chewing disease"
- Reproduces by seed that disperses short distances from the parent plant
- Seeds are viable for at least 3 years

DESCRIPTION: Acts as an annual or perennial; grows to 3 feet tall from a stem that bolts in spring to early summer

Roots: Taproot

Leaves: Hairy, 4- to 8-inch-long leaves have lobed margins and resin dots; new leaves light colored because of dense hairs; rosette with spines in the center forms prior to stem bolting

Flowers: Pale purple to purple; within a head; bracts below have frayed margins with a ½- to 1-inch-long spine

Seeds: Seeds are light-colored achenes, possibly with brown streaks

HABITAT: Silt-textured soils and alluvial soils and generally on drier sites than Iberian starthistle

SIMILAR PLANTS: Iberian starthistle; yellow starthistle has yellow flowers; all three species have spines on the bracts



Purple flowers have large spines. Seeds are streaked with brown and have no pappus. Spines remain in winter. Rosette leaves are as long as 8 inches. Plants reach to 3 feet tall.





Rush skeletonweed

Chondrilla juncea

Asteraceae, the sunflower family

CATEGORY: Containment

BACKGROUND

- Introduced from southern Europe
- Disperses long distances in canyons, likely 1–5 miles
- Seeds survive fewer than 5 years

DESCRIPTION: Perennial or biennial up to 3 feet tall with wiry branched flower stems; lower stems have dense, bristly, downward-pointing hairs; milky sap

Roots: Taproot and lateral roots

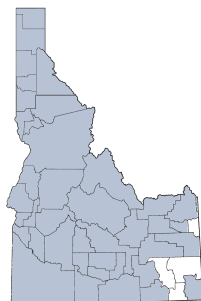
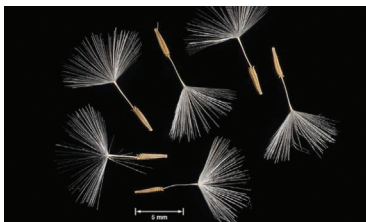
Leaves: Basal rosette leaves lance-shaped, shallow lobed, with a pointed terminal lobe and lateral lobes opposite and usually pointing backward toward the leaf base; stem leaves bractlike, often lacking

Flowers: Bright yellow, strap-shaped, in axils or at the ends of branches

Seeds: Pale to dark-brown ribbed achene

HABITAT: Roadsides, rangelands, pastures, and grain fields

SIMILAR PLANTS: Chicory and dandelion have similar rosette leaves, but chicory rosette leaves have lateral lobes that point outward or forward and rush skeletonweed rosette leaves are reddish



Yellow flowers are produced at the ends of dark green, nearly leafless stems. The basal rosette has lance-shaped, deeply lobed leaves. Stiff downward-pointing brown hairs grow from the base of the stem.



Russian knapweed

Acroptilon repens

Asteraceae, the sunflower family

CATEGORY: Control



BACKGROUND

- Native to the Caucasus in southern Russia and Asia
- Toxic to horses; can cause chewing disease
- Spreads by seeds and from shoots arising from creeping roots
- Disperses less than 3 yards
- Seeds can survive at least 9 years

DESCRIPTION: Branched perennial up to 3 feet tall with clusters of pink to lavender-blue flowers and creeping roots

Roots: Dark brown to black; vertical and horizontal

Leaves: Basal and lower stem leaves bluish-green, oblong, pinnately lobed, and up to 6 inches long; upper stem leaves narrow, lance-shaped to linear, with or without short fine hair

Flowers: White, pink, or lavender-blue disk flowers on branch tips; flower head urn-shaped; bract ovate with a green base, pointed tip, and papery margin

Seeds: Ivory or pale-gray achenes tipped by plumes that fall off at maturity

HABITAT: Cultivated fields, irrigation ditches, pastures, roadsides, and disturbed areas

SIMILAR PLANTS: Other knapweeds lack dark creeping roots and have differently shaped bracts



Flower heads consist of greenish to straw-colored bracts with transparent tips and pink to lavender disk flowers. Early rosette leaves are elliptical to lance-shaped with wavy margins.



Saltcedar

Tamarix sp.

Tamaricaceae, the tamarisk family

CATEGORY: Containment

BACKGROUND

- Native to Eurasia; introduced as landscape plants
- Exudes salt from foliage
- Root and stem fragments float on water for medium to long-distance dispersal; seeds disperse at least 100 yards in light wind
- Seeds remain viable less than 1 year

DESCRIPTION: Shrub or small tree up to 24 feet tall

Roots: Long taproot with lateral roots

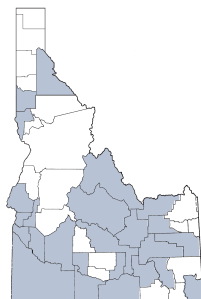
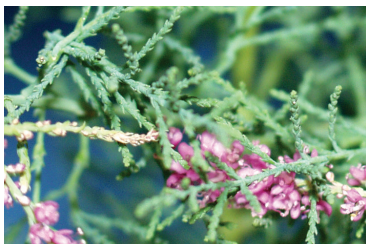
Leaves: Small, scalelike, gray-green, overlapping along the stem

Flowers: Pale or dark pink with 5 distinct petals; inflorescence paniclelike

Seeds: Capsule with tuft of long hair

HABITAT: Streambanks, lake margins, wetlands, moist rangelands, and saline environments

SIMILAR PLANTS: Other saltcedar hybrids



Flowers are pale to dark pink with 5 petals. Scalelike leaves overlap the stem.





Scotch thistle

Onopordum acanthium

Asteraceae, the sunflower family

CATEGORY: Containment

BACKGROUND

- Native to Europe; introduced as an ornamental
- Seeds disperse less than 9 feet
- Seeds survive at least 39 years

DESCRIPTION: Erect biennial up to 8 feet tall with spiny leaves and spiny-winged stems; covered with woolly gray hairs

Roots: Thick taproot

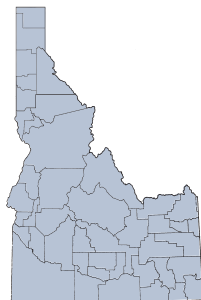
Leaves: Rosette leaves large—to 2 feet long and 1 foot wide; rosette and stem leaves alternate, broadly oval-shaped, spiny, and toothed to shallowly lobed

Flowers: Purple or occasionally white disk flowers; globe-shaped flower head up to 2 inches in diameter in groups of 2 or 3 on branch tips; spine-tipped bracts covered with short and a few cobwebby hairs

Seeds: Egg-shaped achenes mottled brown to black with rough ridges

HABITAT: Rangeland, dry pastures, roadsides, railroad rights of way, riparian areas, and disturbed areas

SIMILAR PLANTS: Other spiny thistles have flower head receptacles that lack bristles



Large, globe-shaped heads remain upright at maturity. First seedling leaves are oval to oblong. Rosette leaves are covered with white hair, giving them a blue-green color.





Small bugloss

Anchusa arvensis

Boraginaceae, the borage family

CATEGORY: Control

BACKGROUND

- Native to Europe
- Problematic in cultivated fields
- Dispersal not reported
- Seed longevity not reported

DESCRIPTION: Winter annual 6–24 inches tall

Roots: Taproot

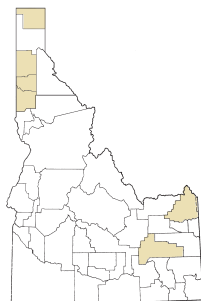
Leaves: Basal rosette is withered at flowering stage; stem leaves alternate, lance-shaped, 1–2 inches long, with wavy margins and bristly hairs arising from small bumps

Flowers: Funnel-shaped; blue with a distinct curve in the whitish tube; in clusters at the tip of a coiled flower stem

Seeds: 4 nutlets per flower, each nutlet producing a seed; nutlet base has a thickened rim; 250 seeds per plant

HABITAT: Roadsides, disturbed areas, pastures, and cultivated fields

SIMILAR PLANTS: Common bugloss, a perennial, has linear leaves, hairs without swollen bases, and a floral tube without a curve



Flowers are blue, funnel-shaped, and clustered at the tip of the stem. Nutlet base has a thickened rim. Seedling leaves are elliptic to oval and covered with hairs. Bristly hairs on leaves arise from a small bump on the leaf.





Spotted knapweed

Centaurea stoebe

Asteraceae, the sunflower family

CATEGORY: Containment

BACKGROUND

- Native to Europe
- Potential allelopathic effects; highly competitive
- Produces up to 25,000 seeds per plant
- Seeds disperse less than 9 feet or long distances if ingested by or attached to animals
- Seeds remain viable for more than 8 years

DESCRIPTION: Biennial or short-lived perennial with branched stems; up to 3 feet tall

Roots: Sturdy taproot

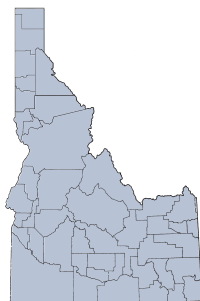
Leaves: Rosette leaves deeply lobed; stem leaves alternate, deeply pinnately lobed, covered with short grayish hairs

Flowers: White or pink-purple disk flowers solitary on branch tips; flower head ovoid; bract below flower has comblike fringed margin with black tip

Seeds: Dark brown to tan achenes tipped by plumes

HABITAT: Rangelands, dry meadows, pastures, roadsides, sandy or gravelly floodplains

SIMILAR PLANTS: Other knapweeds with fringed or comb-like bracts; meadow knapweed and bachelor's buttons; hoary aster has ray flowers and bracts that bend downward



Flower heads are surrounded by black-tipped bracts. Rosette leaves are deeply lobed.



Squarrose knapweed

Centaurea triumphetti

Asteraceae, the sunflower family

CATEGORY: EDRR

BACKGROUND

- Native to eastern Mediterranean area
- Dispersal not reported; likely similar to spotted knapweed
- Seed longevity not reported

DESCRIPTION: Perennial; 1½–3 feet tall with woody base

Roots: Stout, long taproot

Leaves: Basal and lower leaves deeply pinnately lobed; upper leaves linear

Flowers: 4–8 rose to purple disk flowers on branched stems; central spine on bract subtending flower curves downward

Seeds: Seeds pale brown, 1–4 per head; seed heads fall off at maturity

HABITAT: Grasslands; rangeland; dry, disturbed areas; adapted to drought and cold temperatures

SIMILAR PLANTS: Diffuse knapweed floral bract tip does not curve downward and its flowers are typically white to cream



Flowers are rose to purple. The center spine on the bract curves downward. First seedling leaves are oval to spatula-shaped. Upper stem leaves are linear.



Syrian beancaper

Zygophyllum fabago

Zygophyllaceae, the caltrop family

CATEGORY: EDRR

BACKGROUND

- Native to the Syrian desert and Mediterranean region
- Disperses short distances via creeping roots; seed dispersal not reported
- Longevity not reported

DESCRIPTION: Bushy perennial up to 1½ feet tall with creeping roots and stems that are branched from a woody crown

Roots: Stout taproot with creeping lateral roots

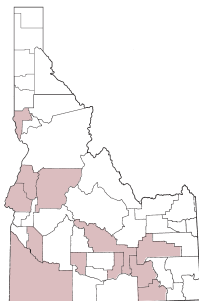
Leaves: Opposite, compound, with 1 pair of opposite oval leaflets; leaflets succulent, waxy, up to 1 inch long

Flowers: Yellow to white or yellow to salmon; with pinkish veins; 5-petaled; up to ¾ inch across, in the leaf axils singly or in pairs

Seeds: In oblong, 5-angled, ribbed capsules; seeds gray, up to ⅛ inch in length

HABITAT: Deserts, dry grasslands, roadsides, and disturbed areas

SIMILAR PLANTS: None



Oblong capsules contain the seeds. Paired leaflets give the leaf a Y-shaped appearance.





Tall hawkweed

Hieracium piloselloides

Asteraceae, the sunflower family

CATEGORY: EDRR

BACKGROUND

- Introduced to the U.S. from Europe
- Dispersal likely similar to orange and yellow hawkweeds (seeds move at least 250 yards in wind)
- Longevity not reported

DESCRIPTION: Perennial up to 2 feet tall; contains milky sap (latex) in stems and leaves

Roots: Fibrous; lacks stolons and rhizomes

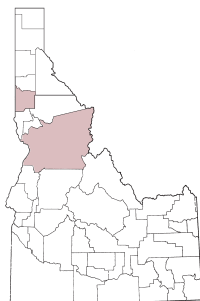
Leaves: Basal leaves smooth or very sparsely hairy, narrow, lance-shaped, and tapering to the base; flowering leafless stem

Flowers: Yellow, dandelionlike, with ray flowers only; flower stalk is long with open flower clusters

Seeds: Achene with tuft of hairs

HABITAT: Moist grasslands and meadows to open forest

SIMILAR PLANTS: Other yellow-flowered hawkweeds; other invasive hawkweeds have stolons and rhizomes; difficult to distinguish from native hawkweeds



Flowers are yellow, dandelion-like, and arranged in open clusters. Sparsely hairy, almost smooth leaves occur at the base of the stem.





Tansy ragwort

Senecio jacobaea

Asteraceae, the sunflower family

CATEGORY: Containment



BACKGROUND

- Introduced from Eurasia
- Toxic to humans and livestock
- Seeds disperse at least 250 yards in wind
- Seeds remain viable for up to 15 years

DESCRIPTION: Biennial or short-lived perennial up to 4 feet tall with flowering stems that branch near the top

Roots: Taproot and lateral roots

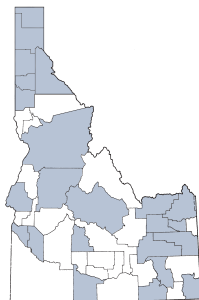
Leaves: Dark green and smooth on upper leaf surface and covered with white cobwebby hairs on lower surface; rosette leaf margins ragged/ruffled and toothed to deeply pinnately lobed 1–2 times, to 8 inches long; lower leaves stalked, 8 inches long; upper leaves alternate, small, and without a stalk

Flowers: Daisylike with ray and disk flowers; yellow with light brown centers; many heads $\frac{3}{4}$ inch across; heads in dense, flat-topped clusters on branch tips

Seeds: Ribbed light-brown achenes with white hairlike plume

HABITAT: Pastures, riparian areas, forests, roadsides

SIMILAR PLANTS: Common tansy flowers lack showy yellow ray petals; common groundsel has toothed, deeply lobed leaves that are smaller than tansy ragwort's



Yellow daisylike flowers occur in dense clusters. Leaves are deeply pinnately dissected and appear ruffled.





Variable-leaf-milfoil

Myriophyllum heterophyllum

Haloragaceae, the watermilfoil family

CATEGORY: EDRR

BACKGROUND

- Native to the U.S.
- Dense mats can congest waterways; dense submersed stands compete with other native vegetation
- Reproduces by seed and by plant fragmentation
- Ducks may disperse seeds and foliage over long distances

DESCRIPTION: Perennial; similar to Eurasian watermilfoil

Roots: Rooted in sediment; fibrous roots with rhizomes; turions occur on rhizomes or at base of stem

Leaves: In whorls of 4–6; submersed leaves featherlike, 0.75–2.5 inches long, 0.75–1.5 inches wide, and with 8–18 leaf segments; emergent leaves stiff, serrated, and up to 1.25 inches long and 0.1–0.5 inches wide

Flowers: 1.16–1.8 inches long with 4 reddish, oval petals; in spikes emerging up to 6 inches above the water surface

Seeds: Fruits are 0.05 inches to 0.15 inches long and nearly round; 4 seeds, one in each chamber; chambers are round or with two upward-pointing keels

HABITAT: Water up to 8 feet deep with muck substrates or silt-covered, sandy bottom sediments

SIMILAR PLANTS: Other native and introduced milfoils



Flowering sections of stems emerge from the water. Flowers are supported on thickened reddish stems. Leaves are segmented like Eurasian watermilfoil.





Vipers bugloss

Echium vulgare

Boraginaceae, the borage family

CATEGORY: Control



BACKGROUND

- Native to southern Europe; introduced as a garden plant
- Toxic alkaloids cause liver damage; especially toxic to horses and pigs
- Dispersal not reported
- Seeds remain viable at least 3 years

DESCRIPTION: Winter annual or biennial up to 3 feet tall

Roots: Taproot with lateral roots

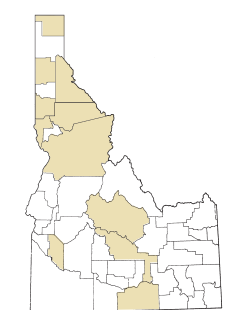
Leaves: Basal rosette leaves stalked, oval to elliptic; stem leaves alternate, narrowly lance-shaped, covered with bristly hairs with swollen bases

Flowers: Purplish-blue, funnel-shaped, at the end of coiled flower stem; threadlike filaments extend from the flower

Seeds: 4 nutlets for each flower; nutlets blackish, 3-sided, with wrinkled surface

HABITAT: Disturbed sites, roadsides, pastures, and grasslands

SIMILAR PLANTS: Small bugloss is shorter and has a distinct curve in the floral tube; common bugloss, a perennial, has linear leaves and hairs without swollen bases



Purple to blue, funnel-shaped flowers have showy, long reddish filaments. Basal leaves are oval or elliptic, and stem leaves are lance-shaped.



Water chestnut

Trapa natans

Trapaceae, the water caltrop family

CATEGORY: EDRR

BACKGROUND

- Native to Europe and North Africa; introduced into the eastern U.S. by 1869
- Sharp fruits can injure swimmers
- Reproduces by seed
- Rosettes can break from roots and float more than 100 yards with lake or stream currents
- Seed longevity is 12 years, but most seeds germinate within 2 years

DESCRIPTION: Annual that can grow to a length of 15 feet; rooted in sediment

Roots: Fibrous

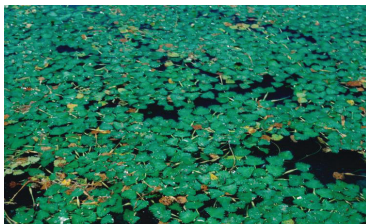
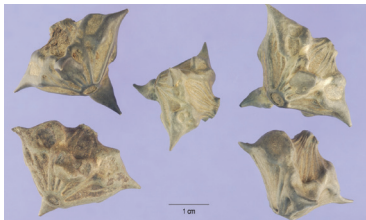
Leaves: Rosette at the water surface; leaves are 1–1.5 inches long, ovoid to triangular, and have saw-toothed edges

Flowers: Four-petalled, small white flowers

Seeds: Fruits green to brown, 1.25–1.5 inches wide, with 4 sharp spines; floating black nuts do not sprout

HABITAT: Shallow ponds, lakes, and slow-moving streams generally less than 16 feet deep

SIMILAR PLANTS: None



Flowers have 4 white petals.
Fruits have 4 sharp points.
 Dense stands shade submersed plants.





Water hyacinth

Eichhornia crassipes

Pontederiaceae, the pickerelweed family

CATEGORY: EDRR

BACKGROUND

- Introduced from South America as an aquatic ornamental
- Considered one of the most serious aquatic weeds; difficult to control
- Grows quickly and forms dense mats that produce high quantities of dry matter
- Floating plants move with currents
- Seeds remain viable at least 2 years

DESCRIPTION: Free-floating perennial with emergent leaves

Roots: Dark, feathery; up to 3 feet long

Leaves: Broadly ovate to circular, 4–8 inches in diameter; leaf stalks are bulbous and spongy

Flowers: Showy; in a single spike of 8–15 flowers with 6 petals each

Seeds: Egg-shaped, ribbed, in membranous capsules

HABITAT: Canals, ponds, lakes, reservoirs, and still and slow-moving water

SIMILAR PLANTS: None



Flowers are lavender, showy, and have 6 petals. Roots are black and featherlike. Free-floating plants have ovate to circular leaves with spongy, bulbous leaf stalks.





White bryony

Bryonia alba

Cucurbitaceae, the cucumber family

CATEGORY: Containment



BACKGROUND

- Native to Europe
- All parts of the plant are poisonous, but especially the root
- Disperses long distances by birds; check areas where birds perch
- Longevity not reported

DESCRIPTION: Climbing perennial vine up to 50 feet in length with tendrils

Roots: Thick, fleshy; resembling a large turnip

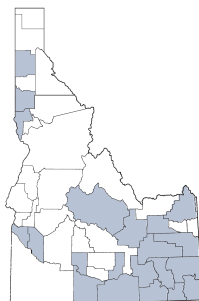
Leaves: Palmately 5-lobed, triangular, up to 5 inches long; rough to the touch

Flowers: Greenish-white, 5-petaled, ½ inch across, in clusters in the leaf axils

Seeds: Spherical berry, ⅝ inch in diameter, green turning to black when mature

HABITAT: Power poles, fence rows, and trees

SIMILAR PLANTS: Resembles kudzu and native clematis in its growth habit



Flowers are white tinged with green and have 5 petals. Berries can be green, turning black when mature. Stems have tendrils. Leaves are 5-lobed and triangular.





Whitetop

Cardaria draba (also hoary cress)
Brassicaceae, the mustard family

CATEGORY: Containment

BACKGROUND

- Introduced from Eurasia
- Disperses short distances by creeping roots; seeds disperse long distances in flowing water
- Seeds remain viable for about 4 years

DESCRIPTION: Perennial up to 2 feet tall

Roots: Creeping horizontal roots and vertical roots; vertical roots can reach to depths of 6 feet

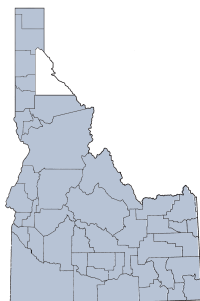
Leaves: Alternate, gray-green, lance-shaped, surfaces sparsely to densely hairy, margins entire or toothed; lower leaves are stalked; upper leaves have 2 lobes clasping the stem

Flowers: Numerous, white, 4-petalled, ¼-inch across; in dense, nearly flat-topped to rounded clusters at the top of each stem

Seeds: In upside-down heart-shaped, often 2-lobed pods; seeds small, flat, reddish brown, 2 per pod

HABITAT: Cultivated fields, rangeland, pastures, roadsides, and disturbed sites

SIMILAR PLANTS: Lens-podded whitetop has flat, round seed pods; hairy whitetop has globe-shaped seed pods and generally smaller leaves covered with dense hairs



Numerous white flowers give the plant a white, flat-topped appearance. First seedling leaves are ovate to oblong with slightly wavy margins. Leaves are grayish green, arrow-head-shaped, and clasp the stem.



Yellow devil hawkweed

Hieracium glomeratum

Asteraceae, the sunflower family

CATEGORY: EDRR

BACKGROUND

- Introduced to the U.S. from Europe
- Increases with overgrazing
- Dispersal likely similar to orange and yellow hawkweeds (seeds move at least 250 yards in wind); short-distance dispersal by root buds

DESCRIPTION: Perennial up to 2 feet tall; broken stems and leaves exude milky juice

Roots: Fibrous; lacks stolons and rhizomes

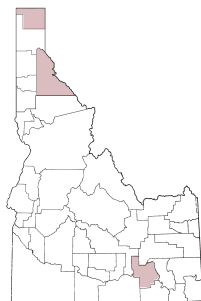
Leaves: Basal leaves with short stiff hairs on both sides and a flowering leafless stem; leaves narrow, lance-shaped and tapering to the base

Flowers: Yellow ray flowers similar to dandelion's

Seeds: Achene with tuft of hairs

HABITAT: Moist grasslands, open fields, mountain meadows, and forest clearings

SIMILAR PLANTS: Other yellow-flowered hawkweeds; yellow and orange hawkweeds have stolons and rhizomes; difficult to distinguish from native hawkweeds and tall hawkweed, which lack stolons



Yellow flowers are arranged in dandelionlike heads. Leaves have short stiff hairs, giving the leaves a rough texture. Leaves occur only at the base of the flowering stem.





Yellow flag iris

Iris pseudacorus

Iridaceae, the iris family

CATEGORY: Containment

BACKGROUND

- Native to the Mediterranean region
- Often grown as an ornamental
- Reproduces from rhizomes and seed
- Likely able to move along streams more than 100 yards per year
- Seeds have increased germination after fire

DESCRIPTION: Perennial; mature plant less than 4 feet tall; can survive drought periods of longer than 3 months

Roots: Roots grow 5–15 inches in length with stout rhizomes 0.25–1.5 inches in diameter

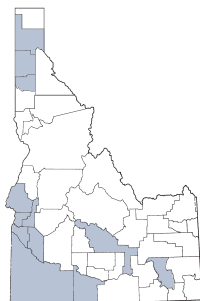
Leaves: Basal leaves are erect and the upper part of the leaf arches; leaves are flattened and 3–4 feet long

Flowers: Large, pale to deep yellow flowers have 3 large sepals that look like petals and 3 small petals; on stalks up to 4 feet high with several flowers per stalk

Seeds: Green, 3-angled, cylindrical fruit capsule up to 4 inches long contains flat, brown seeds

HABITAT: Wetlands, edges of ponds, irrigation ditches, and slow moving streams up to 10 inches deep

SIMILAR PLANTS: None



Fruits are cylinder-shaped and can be 4 inches long. Short, fleshy rhizomes create dense clumps of plants. Forms dense stands in wet areas. Grows along waterways, including irrigation ditches.



Yellow floating heart

Nymphoides peltata

Menyanthaceae, the buckbean family

CATEGORY: EDRR

BACKGROUND

- Introduced as an ornamental in landscape water features
- Forms dense infestations that reduce boating and fishing opportunities
- Reproduces from stem fragments and seed
- Dispersal is typically less than 100 yards
- Seed viability is not known

DESCRIPTION: Perennial with stout, ropelike stems

Roots: Adventitious roots in sediment

Leaves: Dark green and shiny with a wavy margin, heart-shaped base, and overall oval leaf shape; alternate along the stems and opposite on flowering stalks

Flowers: Yellow, 1.2–2 inches in diameter, with 5 petals; clustered in groups of 2–5 on stout stalks about 3 inches above the water surface

Seeds: Fruit are 1 inch long with numerous seeds

HABITAT: Ponds and lakes

SIMILAR PLANTS: Native yellow water lilly



Flowers are yellow with 5 petals.





Yellow hawkweed

Hieracium caespitosum

Asteraceae, the sunflower family

CATEGORY: Control

BACKGROUND

- Native to Europe; introduced as an ornamental
- Seeds disperse more than 250 yards; short-distance dispersal by means of rhizomes, stolons, and root buds
- Longevity not reported

DESCRIPTION: Perennial up to 2 feet tall; hairy with yellow, dandelionlike flowers; contains a white milky sap

Roots: Fibrous roots; also has rhizomes and stolons

Leaves: Basal rosette hairy, oblong-elliptic to lance-shaped, with smooth margins; stems covered with black hairs, leafless, occasionally with a small leaf near the midpoint

Flowers: Yellow, in dense to open clusters; bracts below flowers covered with glandular and black hairs

Seeds: Dark brown to black, ribbed, tipped with white hairlike plumes

HABITAT: Meadows, rangelands, pastures, and open forest

SIMILAR PLANTS: Other yellow hawkweeds; native hawkweeds lack stolons



Bright-yellow dandelionlike flowers occur on nearly leafless stems. Plants produce a basal rosette of leaves.





Yellow starthistle

Centaurea solstitialis

Asteraceae, the sunflower family

CATEGORY: Containment



BACKGROUND

- Native to the Mediterranean region and Asia
- Toxic to horses, causing "chewing disease"
- Seeds disperse less than 5 yards unless attached to animals
- Seeds remain viable up to 12 years

DESCRIPTION: Winter annual with winged stems; up to 6 feet tall

Roots: Taproot to soil depths of 6 feet

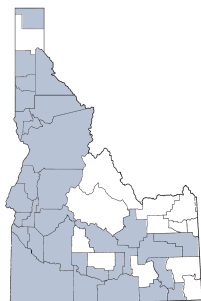
Leaves: Grayish to bluish-green; basal rosette leaves deeply lobed to the midvein, lobes pointed with toothed to wavy margins, terminal lobe triangular, upper and lower surfaces covered with fine, cobwebby and short, stiff hairs; stem leaves alternate, mostly linear or narrowly oblong; lower stem leaves sometimes lobed

Flowers: Bright yellow disk flowers; bracts with sharp, long spines subtend the flowers; flower heads solitary on stem tips

Seeds: Glossy achenes of 2 types: tipped with plume and not plumed

HABITAT: Canyon grasslands, rangelands, pastures, cultivated fields, roadsides, and disturbed sites

SIMILAR PLANTS: None



Flowers have yellowish spines at the base of the flower head. First seedling leaves are oblong to spatula-shaped. Basal rosette leaves are entire when young, pinnately lobed when older. Stem and leaves are dull green and covered with fine woolly hairs. Leaves extend down the stem, making it appear winged.



Yellow toadflax

Linaria vulgaris

Scrophulariaceae, the figwort family

CATEGORY: Containment



BACKGROUND

- Introduced from Europe as a garden ornamental
- Produces a poisonous glucoside that may be harmful to livestock
- Disperses short distances by means of creeping roots, less than 9 feet from seeds
- Longevity not reported

DESCRIPTION: Perennial up to 3 feet tall with erect stems, creeping roots, and showy flowers

Roots: Vertical and creeping lateral roots

Leaves: Linear, up to 2 inches long, sessile, nearly opposite to mostly spreading

Flowers: Elongated inflorescence; flowers bright yellow, sometimes whitish, up to 1½ inch long including spur, throat often hairy and tinged orange

Seeds: Black to dark brown, flat, circular, with a papery wing

HABITAT: Rangeland, pastures, cultivated fields, gardens, and roadsides

SIMILAR PLANTS: Leafy spurge contains milky latex sap; Dalmatian toadflax has egg- to lance-shaped leaves that clasp the stem



Snapdragonlike flowers are orange and yellow. Leaves are pale green, alternate, narrow, and pointed.



Glossary

achene. One-seeded fruit that develops from a single ovary and does not split open to disperse the seed.

alternate. Leaves that are arranged singly up the stem, not opposite each other.

annual. Plant that germinates, flowers, seeds, and dies during one growing season.

anther. Flower structure in which pollen forms.

auricle. Lobelike structure at the collar of a grass leaf.

awn. Slender bristle at the tip of grass seed structures.

axil. The angle formed between a leaf and a stem.

basal. At the base of a plant or plant part.

biennial. Plant that germinates in one growing season, then flowers, seeds, and dies during the second.

bract. Leaflike structure at the base of flowers or leaves.

calyx. All the flower leaves together, normally green in color.

clasping leaves. Leaves that appear to wrap the leaf base around the stem.

collar. In grasses, the point where the leaf leaves the stem, resembling a shirt collar.

compound leaves. Leaves with two or more distinct leaflets.

cotyledons. The first leaflike structures that appear after germination; seed leaves.

crown. The structure formed where leaves, stems, and roots grow together.

disk flower. Tiny tubular flowers in the central portion of the flower head of certain composite plants, such as the daisy.

dissected. Deeply and repeatedly divided into smaller parts.

elliptic. Narrowly oval, broadest at the middle and narrower at the two ends.

entire. Not toothed or otherwise cut.

glumes. The two bracts surrounding a grass spikelet.

head. A group of flowers borne tightly together.

inflorescence. A group or cluster of flowers arranged on the stem; a flower cluster.

irregular flower. A flower with petals that are not uniform in shape but usually grouped to form upper and lower "lips."

lanceolate. Lance-shaped; much longer than wide.

leaflets. Leaflike structures within a compound leaf.

ligule. The structure at the collar of a grass leaf between the sheath and the stem.

linear. Long, narrow, and slender.

lobed. Leaves having cuts into the leaf edge; deeper than toothed, but not quite compound.

margin. The edge of a leaf.

membranous. Thin and flexible, usually not green.

midrib. The center and usually most prominent vein on a leaf.

nodding. A flower that is not pointed upward, but bent downward or sidewise to the stem.

nutlets. A small nut; one of the lobes or sections of the mature fruit.

opposite. Leaves situated directly across the stem from each other.

ovate. Egg-shaped in outline.

palmate. Lobed or divided from a common point, like the fingers of a hand.

panicle. A much-branched inflorescence.

perennial. Plant that lives for more than two growing seasons.

petiole. A leaf stalk.

pinnate. With two rows of leaflets, like a feather.

plume. A hairlike or featherlike structure, often on a seed.

pubescence. The hairs on a leaf, stem, or flower.

ray flower. A straplike flower at the edge of a flower head of certain composite plants, such as the daisy; each ray flower resembles a single petal.

rhizome. A creeping, underground stem.

rosette. A circular, normally basal, clump of leaves.

sagittate. Arrowhead-shaped, with basal lobes directed downward.

sheath. The extension of leaf tissue surrounding a stem.

spatulate. Like a spatula in shape, with a rounded blade gradually tapering to the base.

simple leaf. One with a blade all in one piece; not compound.

spike. A narrow, nonspreading inflorescence.

spikelet. A single or group of floral structures in a grass.

spur. A hollow appendage on a flower.

stolon. A creeping stem along the surface of the ground.

subtend. To underlie so as to enclose or surround: flowers subtended by leafy bracts.

succulent. Fleshy and juicy.

taproot. A thick, central root with minimal branching.

trifoliate leaf. A leaf made of three leaflets; cloverlike.

turion. Vegetative reproductive structure.

whorled. Three or more similar structures arranged as spokes on a wheel.

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From DiTomaso, J. M., and E. A. Healy. 2007. *Weeds of California and Other Western States*. Publication 3488. University of California Division of Agriculture and Natural Resources

Black henbane fruiting stem. J. M. DiTomaso. page 7

Black henbane seedling. J. M. DiTomaso. page 7

Black henbane seeds. J. K. Clark. page 7

Buffalobur seedling. J. M. DiTomaso. page 13

Buffalobur seeds. J. K. Clark. page 13

Scotch broom seedlings. Courtesy of Jim McHenry. page 15

Scotch broom seeds. J. O'Brien. page 15

Canada thistle rhizomes. J. K. Clark. page 23

Canada thistle seeds. J. O'Brien. page 23

Common crupina. C040-02. page 25

Common crupina seeds. J. M. DiTomaso. page 25

Dalmatian toadflax seeds. J. K. Clark. page 33

Diffuse knapweed leaves and stem. J. M. DiTomaso. page 35

Diffuse knapweed seeds. J. O'Brien. page 35

Johnsongrass florets. J. K. Clark. page 64

Johnsongrass inflorescence. J. M. DiTomaso. page 65

Jointed goatgrass embedded spikelets. J. M. DiTomaso. page 66

Jointed goatgrass inflorescences. J. M. DiTomaso. page 67

Jointed goatgrass collar and sheath. J. M. DiTomaso. page 67

Mediterranean sage seeds. J. O'Brien. page 75

Musk thistle seedling. J. M. DiTomaso. page 79

Musk thistle seeds. J. O'Brien. page 79

Oxeye daisy seeds. J. O'Brien. page 83

Perennial sowthistle seeds. J. O'Brien. page 89

Plumeless thistle seeds. J. O'Brien. page 91

Poison hemlock seeds. J. O'Brien. page 93

Rush skeletonweed seeds. J. O'Brien. page 103

Scotch thistle seeds. J. O'Brien. page 109

Squarrose knapweed flower heads. J. M. DiTomaso. page 114

Squarrose knapweed plant. J. M. DiTomaso. page 115

Squarrose knapweed leaves and stem. J. M. DiTomaso. page 115

Squarrose knapweed seedling. J. M. DiTomaso. page 115

Squarrose knapweed seeds. J. O'Brien. page 115

Syrian beancaper fruit and leaves. J. M. DiTomaso. page 117

Tansy ragwort seeds. J. O'Brien. page 121

Yellow flag iris fruit. J. M. DiTomaso. page 137

Yellow flag iris root. J. M. DiTomaso. page 137

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From DiTomaso, J. M., and E. A. Healy. 2003. *Aquatic and Riparian Weeds of the West*. Publication 3421. University of California Division of Agriculture and Natural Resources

Brazilian elodea cross section of leaf. J. K. Clark. page 11

Brazilian elodea stem section. J. K. Clark. page 11

Giant hogweed plant. King County Noxious Weed Program. pages 48, 49

Giant hogweed leaves. King County Noxious Weed Program. page 49

Giant hogweed stem. King County Noxious Weed Program. page 49

Hydrilla cross section of stem. J. K. Clark. page 58

Hydrilla stem with tubers. J. K. Clark. page 59

Hydrilla stem with turions. J. K. Clark. page 59

Parrotfeather stem section with flowers. J. M. DiTomaso. page 85

Water hyacinth flower. J. M. DiTomaso. page 128

Water hyacinth infestation. J. M. DiTomaso. page 129

Water hyacinth whole plant and roots. J. M. DiTomaso. page 129

Water hyacinth basal region of leaf. J. M. DiTomaso. page 129

Courtesy of California Department of Food and Agriculture

Iberian starthistle flower. page 60

Iberian starthistle seed. page 61

Iberian starthistle rosette. page 61

Iberian starthistle taproot. page 61

Iberian starthistle plant. page 61

Courtesy of Ken Chamberlain, The Ohio State University, Bugwood.org

Common reed seeds. page 29

Courtesy of Eric Coombs, Oregon Department of Agriculture, Bugwood.org

French broom leaves. page 17

Courtesy of Steve Dewey, Utah State University, Bugwood.org

Purple starthistle rosette. page 101

Courtesy of Joseph DiTomaso, University of California-Davis, Bugwood.org

Common reed seed head. page 28

Common reed population. page 29

Purple starthistle flower. page 100

Courtesy of Troy Evans, Eastern Kentucky University, Bugwood.org

Giant salvinia leaves. page 53

Courtesy of Steve Hurst, USDA NRCS PLANTS Database

Water chestnut fruit. page 127

Courtesy of Latah County Weed Control

White bryony flowers. page 130

White bryony on tree. page 131

White bryony leaves. page 131

Courtesy of Graves Lovell, Alabama Dept. Conservation and Natural Resources, Bugwood.org

Fanwort closeup of leaves. page 41

Fanwort in water. page 41

Variable-leaf-milfoil emerging stem. page 123

Yellow floating heart flower. page 138

Yellow floating heart leaf. page 139

Yellow floating heart infestation. page 139

Courtesy of Michael P. Masser, Texas A&M University, Aquaplant.tamu.edu

Variable-leaf-milfoil infestation. page 123

Variable-leaf-milfoil leaves. page 123

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

Common/European frogbit flower. page 26

Common/European frogbit plant and flower. page 27

Curlyleaf pondweed leaves. page 31

Curlyleaf pondweed turion. page 31

Fanwort flower. page 40

Giant salvinia sporangia. page 53

Water chestnut flower. page 126

Water chestnut infestation. page 127

Courtesy of Alvin Mitchell, Salish Kootenai College

Flowering rush flower. cover, page 46

Flowering rush cross section. page 47

Flowering rush infestation. page 47

Flowering rush roots and rhizomes. page 47

Flowering rush seed. page 47

Courtesy of David Nicholls, dcnicholls.com, Bugwood.org
 Feathered mosquito fern infestation. page 43

Courtesy of Ohio State Weed Lab Archive, The Ohio State University, Bugwood.org
 Common reed rhizomes. page 29
 Common reed collar region. page 29

Courtesy of Richard Old, XID Services, Inc., Bugwood.org
 Curlyleaf pondweed plants. page 30
 Curlyleaf pondweed infestation. page 31

Courtesy of Victor Ramey, University of Florida, Bugwood.org
 Giant salvinia leaves and roots. page 52

Courtesy of Barry Rice, sarracenia.com, Bugwood.org
 Spanish broom plants. page 19
 Purple starthistle plant. page 101
 Purple starthistle spines closeup. page 101

Courtesy of John M. Randall, The Nature Conservancy, Bugwood.org
 French broom flowers. cover, page 16
 French broom fruits. page 17
 French broom plants. page 17
 Spanish broom flowers. page 18
 Spanish broom seed pods. page 19
 Spanish broom plants. back cover, page 19

Courtesy of Robert Vidéki, Doronicum Kft., Bugwood.org
 Scotch broom twigs, shoots. page 15

Courtesy of Forest and Kim Starr
 Tagasaste flowers. cover, page 12
 Tagasaste plant. page 13

Courtesy of Tracey Slotta
 Tagasaste seeds. page 13

Courtesy of Tigerente
 Tagasaste seed pods. page 13

Courtesy of Justin Wood
 Tagasaste flowers, stem. page 13



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