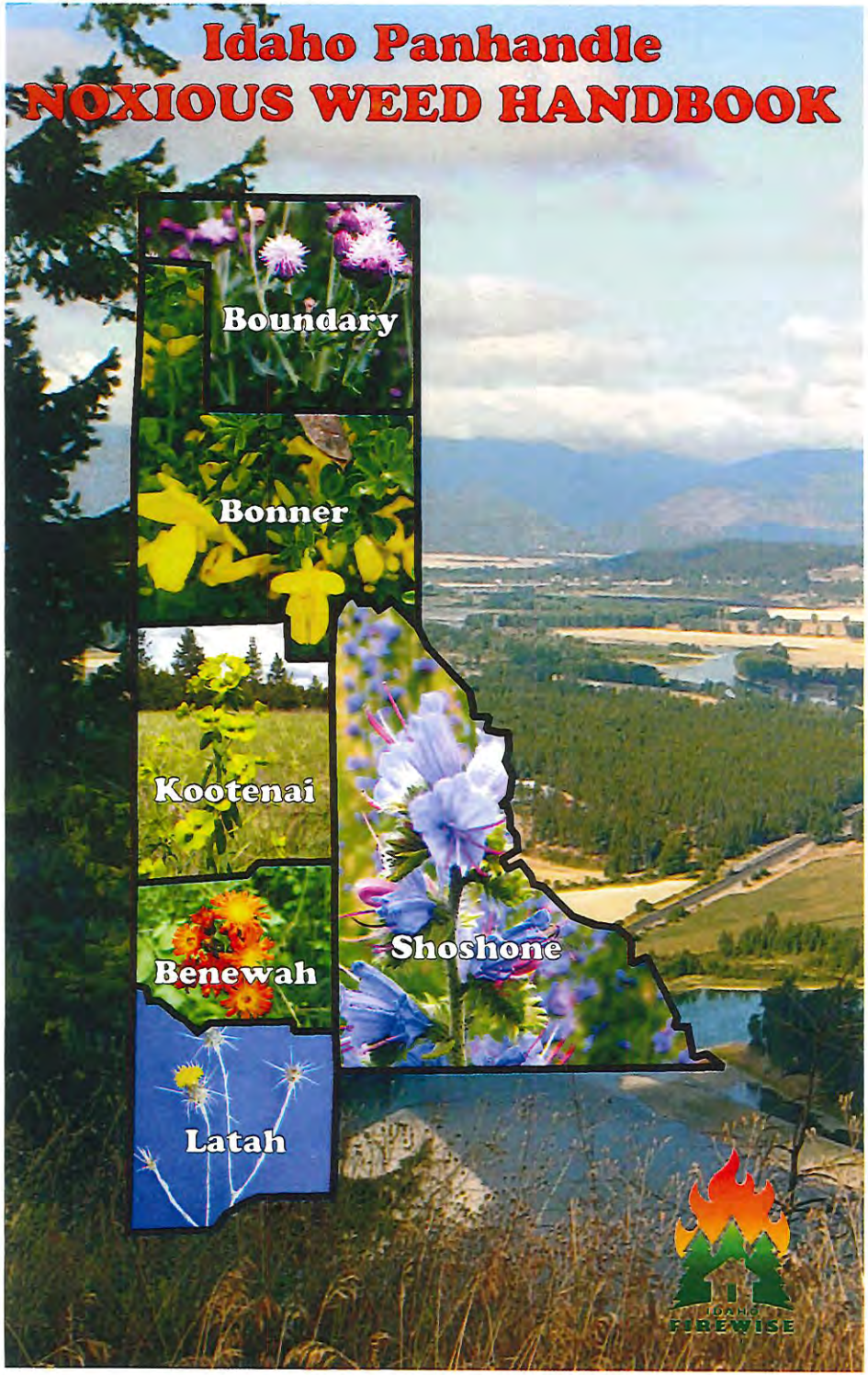

IDAHO PANHANDLE
WEED IDENTIFICATION AND CONTROL HANDBOOK

A Citizen's Guide for Control of Noxious and Invasive Weeds Found in Benewah, Bonner, Boundary, Kootenai, Latah and Shoshone Counties in the Panhandle of North Idaho

PURPOSE

- Educate the public about the seriousness of noxious and invasive weeds.
- Facilitate the identification of noxious/invasive weeds on properties in North Idaho
- Assist the landowner in controlling noxious/invasive weeds on their property.

WHAT IS A NOXIOUS WEED?

Noxious weeds are non-native plants that were brought into Idaho through human actions. Because they grow aggressively and have no natural enemies in our area, these species of plants can be destructive to wildlife habitat, competitive with crops and difficult to control.

'Noxious' is the legal description for 64 weeds found throughout the State of Idaho. This is determined by the weeds potential threat to the environment and economics of crop production.

'Toxic' (described by the symbol ☠) means the weed can poison or cause injury to humans and/or animals. Many noxious weeds are toxic, but not all toxic plants are noxious weeds.

These guidelines are not recommendations. If site-specific help is needed, land managers should contact their local weed control agency. The label will describe legal use of the herbicide for pasture, right-of-way, rangeland, etc., and it will document restrictions on reentry intervals and subsequent haying or grazing restrictions. Herbicide trade names are representative of only a minority of the total products available for purchase.

Help protect our natural resources, prevent noxious weeds from going to seed.

READ THE LABEL - The Label is the law.

CONTRIBUTIONS TO THIS GUIDE

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(Front & Back) Designed by Ron Harbison and Bill Hargrave

The Authors:
Information for this guide came from many sources: IECWMA Noxious Weed Identification and Control Handbook; Idaho One Plan; Idaho State Department of Agriculture (ISDA); Idaho Weed Awareness Campaign (IWAC); Spokane County Noxious Weed Control Board; Washington Noxious Weed Control Board; USDA-Natural Resource Conservation Service (NRCS); University of Idaho Extension; XID Services; Idaho Firewise.

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1500 Hwy 2, Ste 101, Sandpoint ID 83864
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10905 N Ramsey Road, Hayden ID 83835
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www.kcweeds.com

Latah County Noxious Weed Control . . . . . (208) 882-7210
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Shoshone County Noxious Weed Control . . . . . (208) 753-5475
603 Cedar Street, Ste. 202, Wallace ID 83873
grapp@co.shoshone.id.us
www.shoshoneweeds.com

Agriculture and Natural Resource Conservation, Water Quality, Forestry and the Farm Program:

Rural Development Farm Service Agency (FSA), Natural Resource Conservation Service (NRCS), Panhandle Lakes RC&D, Kootenai-Shoshone Soil & Water Conservation District (KSSWCD)
. . . . . (208) 762-4939
Bonner Soil & Water Conservation District. . . . . (208) 263-5310
Idaho Department of Lands, Bonners Ferry . . . . . (208) 267-5577
Idaho Department of Lands, Coeur d'Alene. . . . . (208) 769-1525
Idaho Department of Lands, Deary. . . . . (208) 877-1121
Idaho Department of Lands, Kingston . . . . . (208) 282-4611
Idaho Department of Lands, Sandpoint . . . . . (208) 263-5104
Idaho Department of Lands, St. Maries . . . . . (208) 245-4551
Idaho Department of Environmental Quality
Coeur d'Alene . . . . . (208) 769-1422
Lewiston . . . . . (208) 799-4370

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U of I / Benewah County Extension Office . . . . . (208) 245-2422
U of I / Bonner County Extension Office. . . . . (208) 263-8511
U of I / Boundary County Extension Office . . . . . (208) 267-3235
U of I / Kootenai/Shoshone Extension Office . . . . . (208) 446-1680
U of I / Latah County Extension Office . . . . . (208) 883-7161

North Idaho Firewise Program Contacts:

Benewah County BeFireSafe . . . . . (208) 245-5122
Bonner County BONFire. . . . . (208) 265-8867
Boundary Board of County Commissioners . . . . . (208) 267-7723
Kootenai County Firesmart. . . . . (208) 446-1779
Latah County Emergency Manager . . . . . (208) 883-2265
Shoshone County Fire Mitigation Program. . . . . (208) 752-1264

Pesticide Licensing and Education:

Idaho Department of Agriculture . . . (208) 762-9586 Or (208) 762-9598
http://www.idahoag.us/index.php

Noxious Weed Free Forage and Straw Program:

Noxious Weeds Program Specialist . . . . . (208) 334-2840
www.agri.idaho.gov/

Idaho State Weed Law:

Idaho Noxious Weeds Program . . . . . (208) 332-8667
www.agri.state.id.us/Categories/LawsRules/sub_laws/lawstitle22.php.

IDAHO WEED LAW

IDAHO STATUTE TITLE 22, CHAPTER 24 NOXIOUS WEEDS

- **What is the purpose of the Idaho Noxious Weed Law?** The purpose of the Idaho Noxious Weed Law is to protect lands within the state from invasion by noxious weeds.

- **What does the law require?** The Idaho Noxious Weed Law requires landowners to eradicate noxious weeds on their land.

Legally, eradication means: the elimination of a noxious weed based on the observation that the weed is no longer in the area during the growing season (even though weed seeds will last much longer in the area).

A provision of the law is that the counties are required to enforce that weed law, and the State of Idaho is required to ensure that counties do so. The Idaho Noxious Weed Law has many other provisions.

The law may be found in the Idaho Code, available at libraries, city and county courthouses, from county weed superintendents, and the Idaho State Department of Agriculture website:

www.agri.state.id.us/Categories/LawsRules/sub_laws/lawstitle22.php.

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North Idaho Panhandle is comprised of Benewah, Bonner, Boundary, Kootenai, Latah and Shoshone counties which carry out the mandates of the State Noxious Weed Law, Idaho Statute Title22, Chapter 24 Noxious Weeds.

Partners include:

- Federal, State, County and Tribal government agencies.
- Highway districts and city street departments.
- Local businesses.
- Private landowners.
- Environmental and civic organizations.
- Elementary and secondary schools, college and universities.

The purpose of this book is:

1. Educate the public about the seriousness of noxious and invasive weeds.
2. Facilitate the identification of noxious/invasive weeds on properties in North Idaho
3. Assist the landowner in controlling noxious/invasive weeds on their property.

METHODS FOR NOXIOUS WEED MANAGEMENT

A good weed management plan uses more than one management strategy. The key to successful weed management is to create a favorable situation for desirable plant growth. Tilling, hoeing, hand pulling, mowing or mulching (mechanical methods) can be used to deal with weed problems. Herbicides are powerful tools, so they must be used with care. Herbicides can be one component of an integrated pest management (IPM) plan, not the only control method. Biological controls can be part of an IPM system, but they seldom eliminate the weed.

Prevention is the first line of defense to keep weeds from occurring or increasing in an area. Preventive techniques may include

- Education! Knowing how to identify weeds and being a good land steward will prevent weeds from entering your property.
- Planting high-quality, weed-free crops or grass seed.
- Laws, such as the Noxious Seed Act and Noxious Weed law, help stop weed problems before they start or spread.

- Keeping weeds from going to seed. This is particularly important for annual and biennial weeds which only reproduce by seeds. Perennials may reproduce in a variety of ways, including by seed, root stock, stolons or stem sections. Preventing weeds from reproducing reduces new weed infestations.

Cultural control methods improve desirable plant growth which helps them resist weed invasion. Some cultural methods are:

- Fertilization, which help desirable plants out-grow the weeds.
- Irrigation, or proper watering, enables vegetation to out-compete weeds.
- Planting seed to fill in a bare area will not allow weeds to grow.

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Mechanical methods physically slow or kill weed growth. Mechanical weed control is the oldest and most often used method worldwide. Examples of mechanical control

- Tilling
- Hoeing
- Hand-pulling
- Mowing
- Burning
- Mulching

Biological control uses a living organism to slow weed growth. Often the organism is an insect, grazing animal or plant disease which is a natural enemy of the weed. Examples of biological control agents are

- Livestock, such as cattle, goats, sheep and llamas. However, improper livestock management (overgrazing) can be extremely damaging to the environment and make weed problems worse.

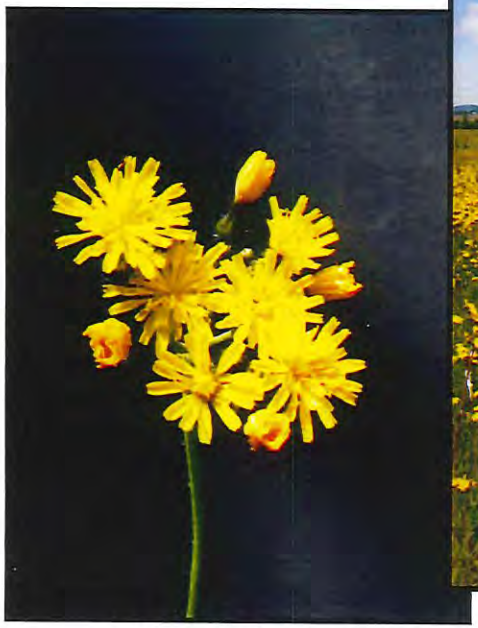
- Insects that chew various parts of a weed can damage or kill the plant over time. Usually the immature stage of the insect does the most damage. Insects may do damage to a plant by eating flower seed heads or leaves, tunneling in stems and boring into roots.
- Plant diseases, or pathogens, may also damage or kill weeds. Pathogens can be fungi, bacteria or viruses.

Chemical spraying involves herbicides, chemicals used to slow or kill weed growth. The first rules of using herbicides are to **READ THE LABEL** before using any pesticide and follow all directions and warnings.

HAWKWEED

Orange Hawkweed

Hawkweed Rosette



Yellow Hawkweed

Field of Hawkweed

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HAWKWEED

YELLOW *(Hieracium caespitosum)*

ORANGE *(Hieracium aurantiacum)*

- A **perennial** that spreads by root, above ground stolon and by feathery, airborne seeds.
- Grows 1 to 3 feet tall.
- The single stalk and leaves are hairy.
- Flowers are **yellow/orange**, look similar to a dandelion flower, but slightly smaller and in clusters. They bloom late May to mid June.
- Found in moist pastures, forest meadows, abandoned fields, clear cuts and roadsides.

Other Hawkweeds of Concern:

Tall Hawkweed *(Hieracium piloselloides)* There are no stolons on this hawkweed. Upper and lower leaf surfaces are smooth or with only few simple hairs. Yellow flowers bloom June through September.

Yellow Devil Hawkweed *(Hieracium glomeratum)* upper and lower leaf surfaces are covered with short stiff hairs giving the plant a rough texture. Stolons are absent in this hawkweed.

Note: There are native hawkweeds that grow in our region. These hawkweeds are **not** invasive. If you are unsure, please call your Noxious Weed Control Office for assistance.

CONTROL METHODS

Chemical: Treat with Milestone® (aminopyralid), Curtail® (clopyralid + 2,4-D), Chaparral® (aminopyralid + metsulfuron), Brazen® (clopyralid + triclopyr) or Hi-Dep® (2,4-D) before bloom. **These products not recommended for home landscapes.**

Non-Chemical:

- Pasturelands must be healthy to recover from infestations and treatments, so fertilization is important.

Biological: There are no biological controls available in Idaho at this time. Hawkweeds are unpalatable, although sheep or goats may eat the plant.

KNAPWEEDS

Spotted Knapweed

Diffuse Knapweed

Meadow Knapweed

Knapweed Rosette

SEE CHEMICAL SUGGESTIONS ON PAGE 61

KNAPWEEDS

KNAPWEEDS ☠

SPOTTED *(Centaurea stoebe)*

- A perennial plant that spreads by seed.
- Grows 3 to 5 feet tall
- **Pink to purple flowers** and blooms from June to October.
- Each flower head has stiff bracts, which are **black tipped**, giving the flower head its 'spotted' appearance.
- Found on any disturbed site and thrives under a wide range of environmental conditions.

OTHER KNAPWEEDS OF CONCERN:

DIFFUSE KNAPWEED *(Centaurea diffusa)* Sometimes called tumble knapweed, it is spread by the tumbling of windblown mature plants.

MEADOW KNAPWEED *(Centaurea pratenis)* Flowers are large pink to purplish-red heads at the end of the branches.

Caution: Animals will not typically graze the plant due to the unpleasant taste. Horses may develop brain, respiratory, or liver damage due to carcinogenic compounds.

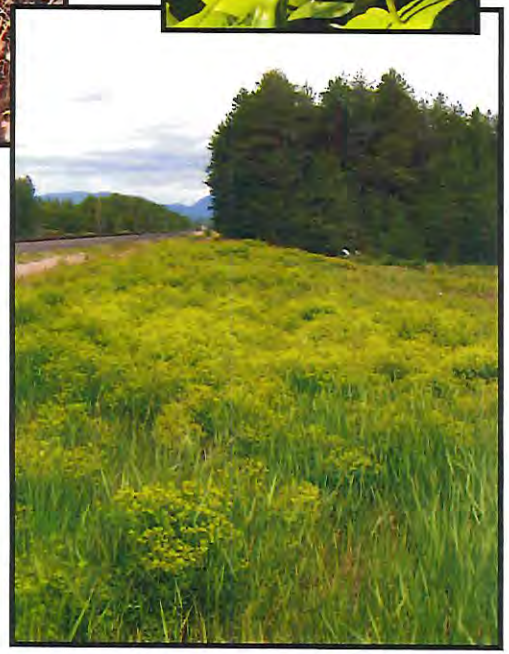
CONTROL METHODS

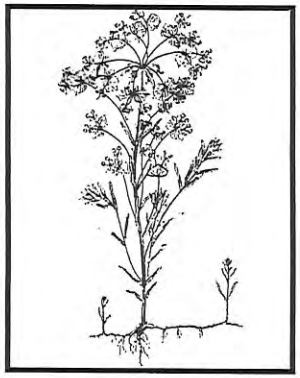
Chemical: Spray with Milestone® (aminopyralid), Curtail® (clopyralid + 2,4-D), Brazen® (clopyralid + triclopyr) or Hi-Dep® (2,4-D) in the spring when the plant is actively growing but before flower heads form. In the fall, spray newly emerging rosettes before a killing frost. **These products not recommended for home landscapes.**

Non-Chemical:

- Mowing or cutting plants will produce low-growing flowers, although the potential seed production is reduced.
- Knapweed does not survive cultivation at regular intervals.
- The plant may be pulled ***(be sure to wear gloves)*** to remove most of the taproot; it is easiest after a soaking rain.

Biological: Biological control agents are available for this plant and may already be present in North Idaho infestations including seed head flies, weevils and moths and root feeding weevils.





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LEAFY SPURGE *(Euphorbia esula)* ☠

Because of the ability to store nutrients in its root system for several years, leafy spurge is a difficult plant to control.

- An aggressive **perennial** that spreads by rootstalks and seeds.
- Grows 1 to 3 feet tall.
- Narrow **bluish-green** leaves are up to 4 inches long.
- Flowers are small and enclosed by **yellowish-green, heart-shaped bracts** and bloom from May into the fall.
- Stems, leaves and flowers contain a **toxic milky latex sap**.
- It can be found in any type of soil and is commonly found in rangeland, pastures, roadsides, waste areas and wetland sites.

Caution: Horses and cattle should not graze the plants; the toxic sap causes blisters or ulcerations.

CONTROL METHODS

Chemical: Tordon® (picloram) applied in late spring or fall will give season-long suppression of leafy spurge. Hi-Dep® (2,4-D), Weedmaster® (dicamba + 2,4-D) or Crossbow® (triclopyr + 2,4-D) will provide some control, but must be applied 2 to 4 times each growing season. **These products not recommended for home landscapes.**

Non-Chemical:

- Fertilization and pasture health are extremely important.
- Mow and pull to prevent seed production. The sap of leafy spurge is **toxic**; skin and eye protection are needed when handling this plant.
- DO NOT CULTIVATE; new plants can begin from the cut root segments.

Biological: Several insect biological control agents are available for this plant and may be present in North Idaho infestations including flea beetles whose adults feed on leaves and flowers and the larvae feed on root hairs or roots. Sheep, goats, and hogs will graze leafy spurge. It is not only satisfactory forage for these animals, but they actually prefer it. Constant grazing slows the weed's spread and starves out the root system.

LARGE KNOTWEEDS

Giant

Giant

Japanese

Bohemian

Bohemian

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LARGE KNOTWEEDS

Because of knotweeds extensive root system, once this weed is established it is difficult to control.

- Woody, upright **perennial** that spreads from long creeping roots and stem pieces.
- Found along roadsides, ditch banks, waste areas and pastures.
- Grows from 4 to 9 feet tall.
- **Bamboo-like stems** are green with **red or purple** spots.
- Small **greenish-white flowers** in early autumn.

➢ **JAPANESE KNOTWEED** *(Polygonum cuspidatum)*

- Small, greenish-white to cream colored drooping flower clusters appear at the end of stems and in leaf axils.

➢ **GIANT KNOTWEED** *(Polygonum sachalinense)*

- Distinguished by large heart-shaped leaves up to 12 inches long.

➢ **BOHEMIAN KNOTWEED** *(Polygonum X bohemicum)*

- A hybrid of Japanese and giant knotweed.
- Greenish-white to cream upright flower clusters.

CONTROL METHODS

Chemical: Garlon 4® (triclopyr), Arsenal® (imazapyr) or Banvel® (dicamba) can be applied when the knotweeds are actively growing and have reached the bud to early flowering stage of growth. **These products not recommended for home landscapes.**

Non- Chemical:

- Never transplant pieces of knotweed into your home landscape.
- Digging is a good option when the plant is small.
- Cutting it back to the ground at least twice a month during the growing season for several years may control it. It is best to remove, rake or carefully dry all knotweed vegetation you cut because stems or stem fragments can sprout creating new plants.

Biological: No effective biological control is available at this time.

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RUSH SKELETONWEED *(Chondrilla juncea)*

The large, deep root system makes skeletonweed difficult to control.

- A **perennial** which spreads primarily by seed, but also by creeping roots.
- Grows 1 to 4 feet tall.
- Leaves at the base look like a dandelion rosette. Stems are bare, except the lower 4 to 6 inches which is covered with **coarse brown hairs**. Stems and leaves produce a **milky latex juice**.
- Flower heads are **yellow** and scattered among the branches.
- Found in disturbed areas.

CONTROL METHODS

Chemical: Spray with Milestone® (aminopyralid), Chaparral® (aminopyralid + metsulfuron), Escort® (metsulfuron) or Brazen® (clopyralid + triclopyr) preferably to rosettes in spring or fall. **These products not recommended for home landscapes.**

Non-Chemical:

- Constant hand pulling or digging two to three times per year for 6 to 10 years can be effective for small infestations.
- Mowing and cultivation are ineffective; mowing does not prevent root spread and cultivation actually spreads root fragments.
- High nitrogen fertilizer assists in minimizing the effects of rush skeletonweed.
- Competitive legume plantings, such as alfalfa, may reduce rush skeletonweed through increased soil fertility and competition for soil moisture, as well as shading the rush skeletonweed plants.

Biological: Control agents may already be present in North Idaho infestations including the skeletonweed gall midge, which feed on leaves and stems. The skeleton gall mites feed on auxiliary and terminal buds. Rush skeletonweed rust attacks the leaves, stems, buds, and flowers of these plants. Continuous moderate grazing by sheep can reduce densities.

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SCOTCH BROOM

SCOTCH BROOM *(Cytisus scoparius)*

Seed pods resemble pea pods, which snap open at maturity and throw seeds for some distance.

- A **perennial** shrub that spreads by seed. It has an average life span of 17 years.
- Grows to 10 feet tall
- Stems are erect, woody, **green to brownish green and five-angled**. Leaves are small (1/2 inch) and fall off in times of stress.
- Pea-like flowers are **bright yellow** and bloom in June.
- Found in pastures, waterways and along roadsides.

Caution: Goats will browse the plants with no ill effect; however, it has been reported as toxic to other livestock.

CONTROL METHODS

Chemical: Spray with Garlon 4® (triclopyr), Milestone VM Plus® (aminopyralid + triclopyr), or Crossbow® (triclopyr + 2,4-D) any time the plants are actively growing. Basal bark application is an effective control method. **These products not recommended for home landscapes.**

Non-Chemical:

- Plant crowns can be dug out.
- Repeated cultivation will destroy seedlings.
- Mowing and burning are not effective.

Biological: Biological control agents are available for this plant and may already be present in North Idaho infestations including the gorse or broom tip moth, Scotch broom seed weevil and the Scotch broom twig miner.

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THISTLE, CANADA

THISTLE, CANADA *(Cirsium arvense)*

This plant is difficult to control due to its extensive root system which may extend up to 20 feet across and 15 feet deep.

- A **perennial** that spreads by horizontal roots and by seed. Each plant is capable of producing more than 40,000 wind-borne seeds.
- Grows 1 to 5 feet tall.
- **Hollow stems** branch near the top. Leaves are wavy, **dark green** and shiny with sharp spines.
- Flowers are **light lavender** to **rose-purple** and bloom June through August.
- Can be found in cultivated fields, meadows, pastures and waste areas.

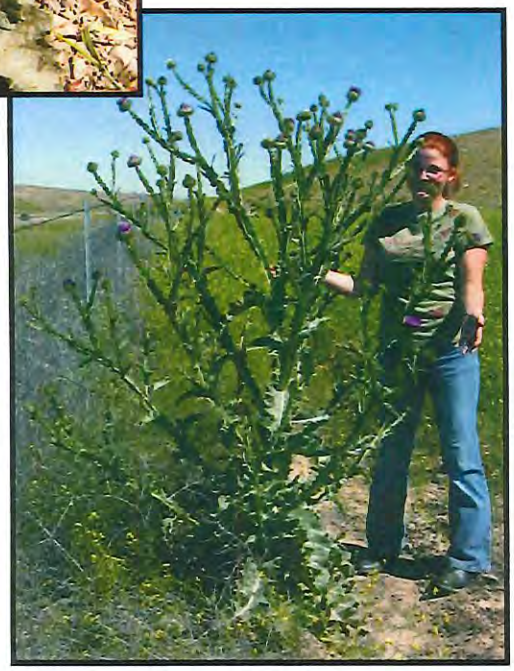
CONTROL METHODS

Chemical: Spray while plants are actively growing but before development of buds with Brazen® (clopyralid + triclopyr), Milestone® (aminopyralid), Curtail® (clopyralid + 2,4-D) or Banvel® (dicamba). Fall application to green leaves before a killing frost gives good control. **These products not recommended for home landscapes.**

Non-Chemical:

- Cultivation should occur every 10 days through the growing season for two years. Remove flower heads to prevent seed production.
- Tilling or mowing will stress Canada thistle and force it to draw upon stored root nutrients. The key to control perennials is to exhaust stored up nutrients in the roots, regardless of the control procedure used.
- Improve fertility to favor grass or other desirable plant growth.

Biological: Biological control agents are available for this plant and may already be present in North Idaho infestations including a stem weevil, a bud weevil and a stem gallfly. Most animals will not graze thistles, although some will occasionally consume flower heads.



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THISTLE, SCOTCH *(Onopordum acanthium)*

Also known as cotton thistle.

- A **biennial** that has a thick, fleshy taproot that may extend down 1 foot or more. Scotch thistle reproduces only by seed.
- Grows to 12 feet tall
- Leaves are large (up to 2 feet long and 1 foot wide), spiny, and covered on both sides with fine woolly hairs, giving the plant a **silvery-gray look**.
- **Purple** flowers appear July through September.
- Thrives in sunny, moist areas along rivers and streams but can also be found in pastures, fields, and along roadsides. It prefers light, well-drained, sandy or stony soils.

CONTROL METHODS

Chemical: Spray with Milestone® (aminopyralid), Banvel® (dicamba), Brazen® (clopyralid + triclopyr), or Curtail® (clopyralid + 2,4-D) in the spring before flower stalks lengthen or in the fall on rosettes. **These products not recommended for home landscapes.**

Non-Chemical: This thistle is biennial. The key to successful management is to prevent seed formation.

- Digging up or tilling the rosettes are effective methods, however, it is important to remove the entire crown.
- Mowing is not a good option and may actually add a year to their life span.
- Plants that are cut or pulled while flowering must be removed from the site to prevent the seeds from reintroducing new plants.
- Fertilize pastures to keep them in optimum condition so grasses can compete.

Biological: Biological control agents are available for this plant and may already be present in North Idaho infestations including the thistle seed head weevil. Most animals will not graze thistles, although some will occasionally consume flower heads.

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TOADFLAX, DALMATIAN

TOADFLAX, DALMATIAN *(Linaria dalmatica)* ☠

It is difficult to control due to its extensive root system.

- A perennial plant that spreads by **creeping roots** and by **seed.**
- Grows to 4 feet tall.
- Leaves are **thick and waxy**, have no stems and are **blue-green**.
- The **yellow snapdragon-like flowers** are often tinged with orange or red and are located along the flower spikes at the top of the plant. Plants flower from midsummer to fall.
- An aggressive weed of pastures, roadsides and abandoned lots.

Caution: Toadflaxes contain cyanogenic glucosides which can cause cyanide poisoning if grazed, although large amounts must be ingested in a short period of time.

CONTROL METHODS

Chemical: Escort® (metsulfuron), Banvel® (dicamba), Tordon® (picloram), or Telar® (chlorsulfuron) gives control when applied before bloom. **These products not recommended for home landscapes.**

Non-Chemical:

- Cultivation at 10-day intervals can be a viable control method.
- Small infestations can be pulled and the root systems dug out.

Biological: Biological control agents are available for this plant and may already be present in North Idaho infestations including the toadflax flower-feeding beetle; the defoliating toadflax moth; the toadflax capsule weevil and the toadflax stem mining weevil.

TOADFLAX, YELLOW

SEE CHEMICAL SUGGESTIONS ON PAGE 61

TOADFLAX, YELLOW

TOADFLAX, YELLOW *(Linaria vulgaris)* ☠

This plant is difficult to control due to its extensive root system.

- A **perennial** plant that spreads by **creeping roots** and by **seed**.
- Grows to 3 feet tall.
- Leaves are **long, narrow** and **pale green** in color.
- **Snapdragon-like flowers** are **yellow** with an orange throat, clustered at the top of the stem. The plant flowers June through August.
- An aggressive weed of pastures and roadsides.

Caution: The toadflaxes contain cyanogenic glucosides which can cause cyanide poisoning if grazed, although large amounts must be ingested in a short period of time

CONTROL METHODS

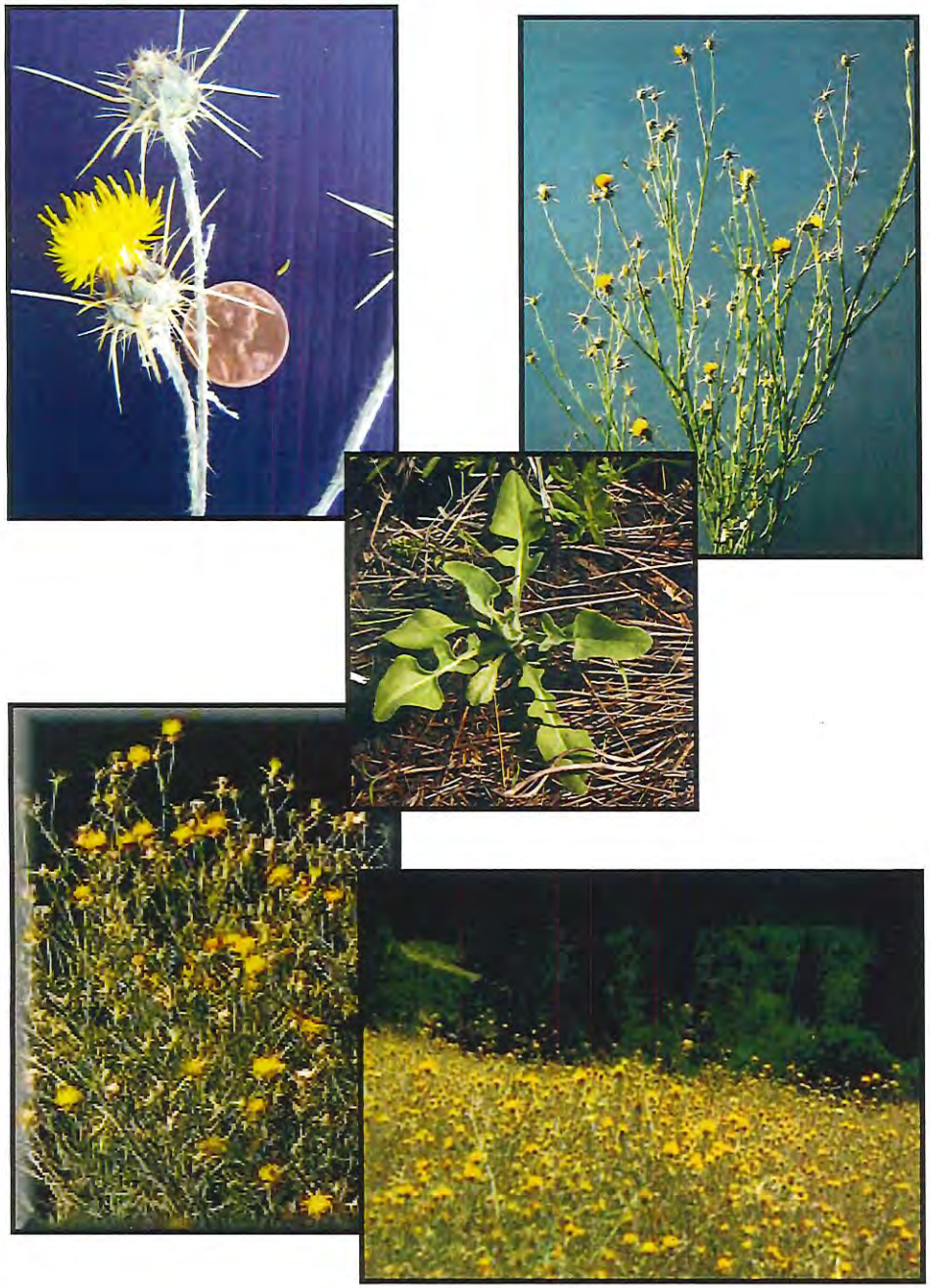
Chemical: Escort® (metsulfuron), Banvel® (dicamba), Tordon® (picloram), or Telar® (chlorsulfuron) gives good control when applied before bloom. **These products not recommended for home landscapes.**

Non-Chemical:

- Cultivation at 10-day intervals can be a viable control method.
- Small infestations can be pulled and the root systems dug out.

Biological: Biological control agents are available for this plant and may already be present in North Idaho infestations including the toadflax flower-feeding beetle, the toadflax moth and the toadflax capsule weevil.

YELLOW STARTHISTLE



SEE CHEMICAL SUGGESTIONS ON PAGE 61

YELLOW STARTHISTLE

YELLOW STARTHISTLE *(Centaurea solstitialis)*

- An **annual** that reproduces by seed.
- Grows 2 to 3 feet tall.
- Very rigid branches covered with fine, soft hairs.
- Flower heads are **yellow**, located singly on the ends of branches and armed with outwardly pointed **stiff yellow spines** up to 1 inch long.
- Found along roadsides and in waste areas.

Caution: Plant causes "chewing disease" in horses and may also cause liver and brain damage due to carcinogenic compounds

CONTROL METHODS

Chemical: Spray in the rosette stage or before bud formation with Milestone® (aminopyralid), Chaparral® (aminopyralid + metsulfuron), Brazen® (clopyralid + triclopyr),or Curtail® (clopyralid + 2,4-D). **These products not recommended for home landscapes.**

Non-Chemical:

- It is possible to control small infestations by hand pulling and cultivation. This weed is difficult to handle, so good gloves and tools will make this task easier.
- Mowing can help stop seed spread over a wide area, but it usually has a negative effect. When mowed, yellow starthistle becomes denser.

Biological: Biological control agents are available for this plant and may already be present in North Idaho infestations including the yellow starthistle bud weevil, the yellow starthistle peacock fly, the yellow starthistle hairy weevil, the yellow starthistle flower weevil and the yellow starthistle gall flies.

WATERWEEDS, SUBMERGED

EURASIAN WATERMILFOIL *(Myriophyllum spicatum)*

An aquatic, underwater plant that can be confused with native milfoils. The time to identify Eurasian watermilfoil is mid-June through September.

- A **perennial** plant that grows 35 feet, creating mats of floating vegetation. It reproduces by **roots, seed and fragment** (the fragmentation occurs in late summer and fall).
- Leaves are **feather-like** and tend to collapse around stem if removed from the water (native milfoil leaves do not collapse when removed from the water).
- Small flowers appear on leafless, **reddish spikes** that stand above the water surface by a few inches.
- Found in water shallower than 25 feet deep, depending upon light penetration.

CURLYLEAF PONDWEED *(Potamogeton crispus)* Introduced as an aquarium plant.

- A **perennial** plant that starts to grow in early spring and usually dies back in midsummer.
- The leaves are **reddish-green**, oblong, and about 3 inches long, with distinct **wavy edges**. The stems are flat, reddish-brown and grow from 1 to 3 feet long.

CONTROL METHODS

Chemical: Chemical control is limited to herbicides labeled for aquatic use. Report any suspected infestation in a public waterway to your County Noxious Weed Department. **Aquatic herbicides can only be applied to public waterways by government agencies with permits.**

Non-Chemical:

- All water weeds can be raked, pulled or cut and disposed of on dry land.

Biological: No effective biological control is available at this time.

SEE CHEMICAL SUGGESTIONS ON PAGE 61

WATERWEEDS, MARGINAL

(1) ***Flowering Rush*** *(Butomus umbellatus)* Whitish-pink flower. Brought in as an ornamental.

(2) **Common Reed** *(Phragmites australis)* 6 to 15 foot tall grass.

(3) **Purple Loosestrife** *(Lythrum salicaria)* This plant is often mistaken for fireweed or pink spirea.

(4) **Yellow Flag Iris** *(Iris pseudacorus)* Brought in as an ornamental

1

2

3

4

Common characteristics:

- Perennial plants with a large underground root system. These plants spread from broken stem or root pieces which have the ability to develop roots and start new plants.
- Prefers to grow in moist soils in marshes, stream banks, roadside ditches or along shorelines.
- Once established, these plants can clog small streams and irrigation systems and dominate shallow wetlands, wet pastures and ditches.

CONTROL METHODS

Chemical: Chemical control is limited to herbicides labeled for aquatic use. Report any suspected infestation in a public waterway to your County Noxious Weed Department. **Aquatic herbicides can only be applied to public waterways by government agencies with permits.**

Non-Chemical:

- Plant crowns can be dug out.
- Repeated cultivation will destroy seedlings.

Biological: Only purple loosestrife has biological control agents available including the black-marginal loosestrife beetle and the golden loosestrife beetle. Both feed on the buds and the foliage, while the loosestrife root weevil larvae feed on roots, the adults on the foliage. The blunt loosestrife seed weevil reduces seed production and the loosestrife seed weevil feeds on unopened flower buds.

WEEDS OF CONCERN

In addition to the weeds in our region, there are a few additional weeds that the County Weed Superintendents encourage landowners to look for and control if they find them.

- Jointed Goatgrass *(Aegilops cylindrica)*
- White Byrony *(Bryonia alba)*
- Puncturevine *(Tribulus terrestris)*
- Poison Hemlock *(Conium maculatum)*

Jointed Goatgrass

White Byrony

Puncturevine

Poison Hemlock

SEE CHEMICAL SUGGESTIONS ON PAGE 61

TOXIC PLANTS

Most poisonous plants have an unpleasant taste that animals avoid if they have other food to eat. Ensure that your animals have plenty of hay and/or healthy pasture to graze. If you suspect a poisoning, call a veterinarian as quickly as possible.

Toxic in Hay:

Dogbane
Fiddleneck
Field Horsetail
Jimsonweed
Johnsongrass
Milkweeds
Mustards
Nightshades
Poison or Water hemlocks
Red/Alsike clover (for horses)
Russian knapweed
Spurges
Sweetclover (if moldy)
Yellow starthistle

Toxic Range Plants:

Arrowgrass
Bouncingbet
Brackenfern
Buttercups
Chokecherry
Curly dock
Death camas
False hellebore
Halogeton
Kochia
Larkspurs
Locoweeds
Lupine
Monkshood
Ponderosa pine
Puncturevine
Tall fescue
Wild Onion

Websites with pictures and more information:

www.spokanecounty.org/weedboard

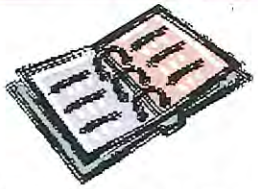
www.horseforcleanwater.com

www.ansci.cornell.edu

www.mtwow.org

www.vet.purdeu.edu

GLOSSARY OF TERMS



active ingredient -in an herbicide, the chemical that effectively controls or kills a weed.

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

annual - a plant that completes its life cycle in one year.

aquatic weed - a weed that grows in the water or on the edge of soils that are next to water, for example, weeds on a riverbank.

axil - the angle formed between a leaf and a stem.

basal - at the base of a plant.

biennial - a plant that completes its life cycle in two years.

bract - leaflike structure at the base of flowers or leaves.

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

contact herbicide -chemical that affects just the part of the weed that is sprayed.

disk flower - tiny flowers in the central portion of flower head of certain composite plans, such as daisy.

dissected - deeply and repeatedly divided into smaller parts.

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

eradication -the elimination of a noxious weed based on the observation that it is no longer in the area during the growing season.

fragmentation - a part broken off or detached. Some weeds break into sections and those pieces can grow into more weeds.

inert ingredient -in an herbicide, the carrier or substance that contains the active ingredient, for example clay, oil or water.

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

lanceolate - lance-shaped; much longer than wide.

SEE CHEMICAL SUGGESTIONS ON PAGE 61

lobed - leaf cut into shallow segments.

nodding - a flower that is not pointed upward, bent sidewise to the stem.

non-selective herbicide -chemical that will control or kill any green, living plants.

opposite - leaves situated directly across the stem from each other.

ovate - egg-shape in outline.

perennial - a plant that lives more than two years.

plant competition -when many different grasses and weeds live in a particular area, they all struggle for room, food and water.

pubescence - the hairs on a leaf, stem, or flower.

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

rhizome - an underground, creeping stem that resembles a root.

rosette - compact cluster of early leaves of a plant, before flower formation.

RTU -ready to use.

selective herbicide -chemical control that will only effect a particular plant or weed, not all plants.

spines - a sharp pointed modified leaf.

spreader-sticker - see 'surfactant'.

stamens - flower structure in which pollen forms.

stolon - a creeping, above ground stem.

surfactant - a material, that when added to herbicide can improve the spreading/sticking properties of the liquid or slow evaporation.

systemic herbicide - chemical that controls or kills a weed by being absorbed through the plants system (leaves or roots).

taproot - a thick, central root with minimal branching.

whorled - 3 or more leaves from a single node on a stem.

winged stem - a flattened out, 'wing like' structure of plant tissue that surrounds a plant stem.

winter annual - an annual that germinates in the fall and completes its life the following year.

IDAHO'S NOXIOUS WEEDS

4TH EDITION

by Timothy Prather, Sandra Robins,
and Don Morishita

This handbook was prepared in cooperation with the
Idaho State Department of Agriculture.
Technical information and assistance was provided by
Daniel Safford and Stephen Cox at ISDA.

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 *http://adm.idaho.gov/adminrules/rules/idapa02/0622.pdf*, to ensure that the list set forth in this handbook is correct.

University of Idaho Extension
Moscow, Idaho

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University of Idaho Extension

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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

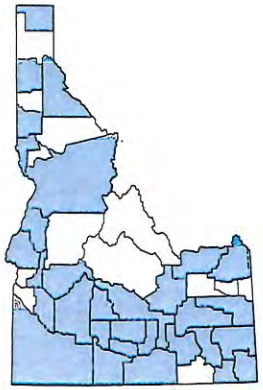
Leaves: First-year basal rosette leaves shiny green, triangular, 2-3 times dissected or pinnately lobed, compound, to 12 inches long; upper stem leaves similarly shaped but shorter

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.

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

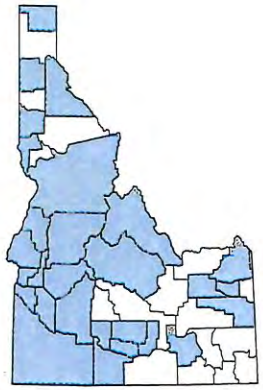
Leaves: Lance-shaped with smooth margins, sessile, mostly opposite or whorled

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.