

Identifying Montana's Forest Invasive Weeds





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Biology, Ecology, and Management of Flowing Rush, Blueweed, and Hoary Alyssum.

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Using this Guide

This guide will help you identify 22 Montana noxious plants for in most forest areas. If a plant is listed as toxic to one animal, it may be toxic to others, but effects may not have been evaluated.

In addition, there are plant management methods listed at the bottom of each page that identifies a plant. The methods range from moderately to highly effective, however this determined for each site. Sustainable land management practices and revelations following weed management are critical for long-term control.

Special Note

Future guides/handouts will be also available on MSU Extension Forestry Website: www.msuextension.org/forestry. As well as current workshop schedules and up coming events.

Table of Contents

Introduction

Using the Guide	4
-----------------------	---

Pink and Purple Flowers

Canada thistle	5
spotted knapweed	6
houndstongue	7
purple loosestrife.....	8
tall larkspur	9

Blue Flowers

blueweed	10
----------------	----

White Flowers

oxeye daisy.....	11
hoary alyssum.....	12

Orange and Yellow Flowers

orange hawkweed.....	13
common tansy	14
dalmatian toadflax	15
leafy spurge.....	16
sulfur cinquefoil.....	17
tall buttercup	18
tansy ragwort.....	19
yellowflag iris.....	20

Aquatic/Water Plants

flowering rush.....	21
Eurasian water milfoil.....	22

Grasses

reed canarygrass	23
cheatgrass.....	24

Glossary	25
----------------	----

Canada thistle (*Cirsium arvense*)

Flower: Purple fading to white with a diameter of 1/2 to 3/4 inch. Bracts have weak prickles.

Seed/Fruit: Long, flattened seeds with tufts of white hairs.

Leaves: Irregularly lobed with spines on margins, alternate leaves.

Stems: 1 to 4 feet tall, lack spines, erect ridged, branched and slightly hairy.

Root: Horizontal and vertical. Deep, creeping root.

Life Cycle: Perennial, colony-forming that reproduces by rhizomatous roots or by seeds.



Management Options: Insects, grazing, cultivation, hand-pulling, herbicide, and reseeding as follow-up.

spotted knapweed (*Centaurea maculosa*)

Flower: Pinkish-purple flower head on each branch. Bracts have dark spot on tip and fringed edges.

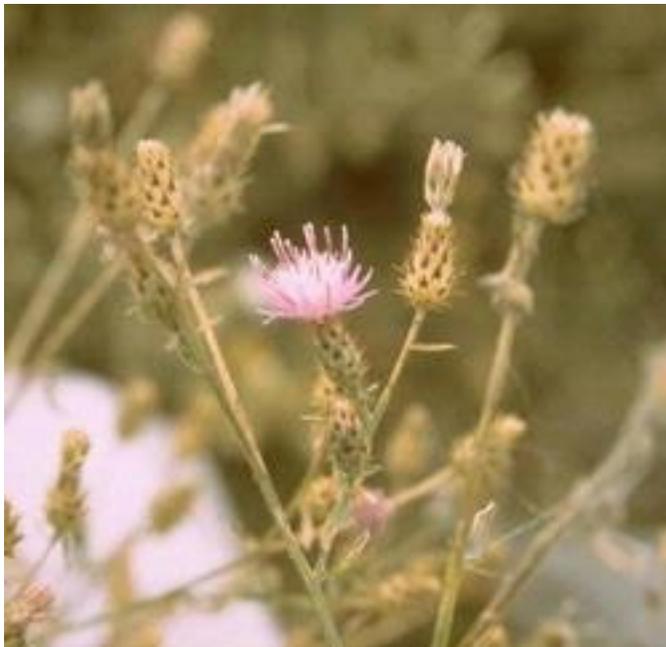
Seed/Fruit: Black seeds 1/8 inches long.

Leaves: Rosette leaves are deeply lobed, grayish green and up to 6 inches long.

Stems: Up to 4 feet tall and highly branched.

Root: Taproot.

Life Cycle: Biennial or short-lived perennial, sometimes biennial with deep tap-roots that help it complete for water and nutrients.



Management Options: Insects, cultivation, hand-pulling, grazing, herbicide, and reseeding as follow-up.

houndstongue (*Cynoglossum officinale*)

Flower: Reddish-purple cup-shaped velvety flowers.

Seed/Fruit: Four bur-like adhesive nutlets about 1/3 inches long.

Leaves: Rosette leaves are up to 12 inches long, velvety, lack teeth or lobes, shaped like a hound's tongue. Stem leaves alternate and smaller towards the apex.

Stems: Soft white hairs over the entire plant, 1 to 4 feet tall.

Root: Taproot.

Life Cycle: Biennial forb that reproduces by seeds.

Damage Potential/Toxic: Horses, cattle, sheep, goats.



Management Options: Cultivation, hand-pulling small patches, herbicide, and reseeding as follow-up.

purple loosestrife (*Lythrum salicaria* and *L. virgatum*)

Flower: Clustered on a vertical spike extending 2 inches to 3 feet down stem, one or more flowering branches; rose to purple with four to eight petals.

Seed/Fruit: Small brown capsules with many seeds.

Leaves: Clasping, lance shaped leaves with a notched base and smooth margins are opposite or whorled on stem.

Root: Short rhizomes and taproot.

Stems: 6 to 10 feet tall, square or octagonal stems.

Life Cycle: Perennial.



Management Options: Hand-pulling, herbicide, and reseeding as follow-up.

tall larkspur (*Delphinium barbeyi*)

Flower: Four bluish-purple petals and one sepal elongated onto a slender spur. Flowers grow in dense clusters at the top of the stem. Flowering July to August.

Seed/Fruit: Fruit are follicles, which are highly poisonous. Seeds maturing from August to September. Reproduces from seeds.

Leaves: Divided into sharp pointed segments and hairy.

Stems: Growing 3 to 8 feet tall, with hollow stems (dwarf larkspur blooms in early spring-grows only 8-30 inches high).

hollow at the base and darker blue color above.

Root: Growing in a deep, vertical, woody taproot. Beginning growth in late spring. Favors deep, loamy, well developed soils.

Life Cycle: Perennial.

Damage Potential/Toxic: Horses (seldom eat it) and cattle. The plant contains alkaloids, which acts on the nervous system. Death may result in paralysis. Seeds are the most toxic part of the plant.



Management Options: Contract local weed control.

blueweed (*Echium vulgare* L.)

Flower: Numerous flowers 1/3 - 2/3 inch long arranged on upper side of short stems that elongate after flowering. Buds reddish purple, becoming bright blue upon flowering. Petals fused at base into a short tube that flares.

Seed/Fruit: Seeds clustered in groups of four, 1/10 inch long, grayish brown, angular, roughened, and wrinkled, are either brown or gray on color with a rounded pyramid shape.

Leaves: Leaves are stalked, alternate, covered with stiff hairs, grow up to 8 inches long and 1 inch wide at the base and grow narrower up the stem.

Stems: 12-32 inches tall, Stems are hairy and can be painful to touch. At the base of the hair on the stem, there will be a red or black bump on the surface which gives the stem a flecked appearance.

Root: Taproot system with small fibrous roots. Roots black with depths to 2 feet.

Life Cycle: Biennial or short-lived perennial.

Damage Potential/Toxic: Can be toxic to livestock, especially horses and cattle if ingested. Sheep and goats have shown resistance to the toxic plant.



Management Options: Mechanical, cultural, biological, burning, or chemical.

oxeye daisy (*Chrysanthemum leucanthemum*)

Flower: Daisy-like flowers that range from 1 to 2 inches in diameter, flowers have a yellow center with 20 to 30 white petals. May have a strong unpleasant odor.

Seed/Fruit: Black in color with ribs.

Leaves: Basal and lower stem leaves on long narrow stalks have rounded teeth, are 2 to 5 inches long and widest at the tip. Upper stem leaves are smaller towards the apex, have no stalk, and are toothed.

Stems: 1 to 2 feet tall, simple or once branched, smooth.

Root: Shallow, branched rhizomes.

Life Cycle: Short-lived Perennial.



Management Options: Insect, grazing, herbicide, pulling, cultivations and re-seeding as follow-up.

hoary alyssum (*Berteroa incana* L.)

Flower: Flowers bloom from early spring to late fall, given adequate water and light. Flowers are small, 1/10 - 2/10 inches long deeply notched petals on slender stalks.

Seed/Fruit: Flattened oval seed pods 2/10 to 3/10 inch long with star-shaped hairs close to stem; styles remain. Pod chambers contain 3-7 seeds.

Leaves: Oval lance-shaped leaves that are broadest at the tip and 1 to 2 inches long. Stem leaves are alternately arranged, similar to rosette leaves in shape, but generally point upward and are smaller with less of a stalk.

Stems: Flowering semi-erect, covered with star-shaped hairs, 1-3 1/2 feet tall, usually branched at the top. Multiple stems are common.

Root: Slender taproot capable of deep soil penetration.

Life Cycle: Biennial.



Management Options: Hand pulling, cultivation, herbicides.

orange hawkweed (*Hieracium aurantiacum*)

Flower: Clusters of 5 to 30 dandelion-like flowers with red-orange petals with notched tips.

Seed/Fruit: Dark brown or black with ridge and bristly plumes.

Leaves: Rosette leaves that are narrow, spatula shaped. Hairy, 4-6 inches long and dark green on the upper surface.

Stems: 1 to 3 feet tall with bristly hairs and 0-3 small leaves. Entire plant contains a milky juice.

Root: Shallow, fibrous, creeping.

Life Cycle: Perennial.



Management Options: Hand-pulling small patches, herbicide, and reseeding as follow-up.

common tansy (*Tanacetum vulgare*)

Flower: Numerous yellow button-like heads in clusters.

Seed/Fruit: Yellowish brown seeds have five-toothed ridges.

Leaves: Alternate, fern-like, aromatic leavers. Divided into leaflets with toothed margins.

Stems: 1 to 6 feet tall, often purplish red.

Root: Rhizomatous.

Life Cycle: Aromatic perennial forb that reproduces by seeds or by rootstock, poisonous if ingested.

Damage Potential/Toxic: Horses, cattle, and humans.



Management Options: Hand-pulling small patches, mowing pre-herbicide, herbicide, and reseeding as follow-up.

dalmatian toadflax (*Linaria dalmatica*)

Flower: Develop at base of the upper leaves, snap dragon-like bright yellow with an orange throat and long spur.

Seed/Fruit: Irregular angled seeds in two-celled capsule

Leaves: Waxy pale green to bluish green heart-shaped alternate leaves .

Stems: Up to 3 feet tall.

Root: Taproot and horizontal roots with adventitious buds.

Life Cycle: Herbaceous perennial that reproduces by seeds and rhizomatous root systems.



Management Options: Hand-pulling small patches, insects, grazing, and herbicide.

leafy spurge (*Euphorbia esula*)

Flower: 7-10 yellowish green flowers in small clusters. Flower is inconspicuous and subtended by showy, heart-shaped yellow bracts.

Seed/Fruit: Oblong, grayish to purple and borne in a three-celled fruit.

Leaves: Alternate, narrow, 1 to 4 inches long. Stems and leaves contain a white milky sap.

Stems: Up to 3 feet tall.

Life Cycle: Perennial

Root: Deep and spreading, brownish rhizomes with pink buds. Can spread laterally 15 feet/year and reach nearly 30 feet in depth.

Damage Potential/Toxic: Horses, cattle, and humans.



Management Options: Insects, grazing, herbicide, and reseeding as follow-up.

sulfur cinquefoil (*Potentilla recta*)

Flower: 5 light yellow petals with deeply a notched tips and a yellow center.

Seed/Fruit: Comma shaped, brownish purple covered with net-like ridges.

Leaves: Palmately compound with 5-7 toothed leaflets. Stalked leaves, length and size decrease towards the top.

Stems: One to several erect stems 1-2 feet tall, may be branched with terminal, multi-flower inflorescence. Stems have hairs perpendicular to stem and leafstalks.

Root: Fibrous spreading roots

Life Cycle: Perennial



Management Options: Hand-pulling small patches, herbicide, cultivation and reseeding as follow-up.

tall buttercup (*Ranunculus acris*)

Flower: Glossy, yellow flowers in cluster, 3/4 to 1 inch with greenish center.

Seed/Fruit: Disc-shaped reddish brown with short hook.

Leaves: Hairy, deeply lobed into 3 –5 segments with each segment lobed again. Leaves decreasing size towards top of stem. Uppermost leaves have 3 - 4 narrow segments.

Stems: Up to 3 feet tall, branched and hairy.

Root: Hairy, fibrous and occasionally rhizomatous.

Life Cycle: Perennial.

Damage Potential/Toxic: Horses, cattle, sheep , and goats.



Management Options: Hand-pulling small patches, and herbicide.

tansy ragwort (*Senecio jacobaea*)

Flower: Daisy-like flower heads, yellow petals with yellow center. Less than 1 inch in diameter, clustered on terminal stems.

Seed/Fruit: Tiny and tipped by hair like plumes.

Leaves: Rosette has 10-20 leaves with web like hairs. Basal leaves 2-10 inches long, lobed into leaflets and leaflets lobed again. Stem leaves alternate and lower leaves are larger with a strong odor when crushed.

Stems: Commonly 1-3 feet tall but up to 6 feet. Several or solitary stems may branch near the terminal inflorescence. Stems and leaf stalks often purplish and have cobwebby hairs.

Root: Taproot.

Life Cycle: Biennial or short-lived perennial.

Damage Potential/Toxic: Horses, cattle, sheep , goats, and humans.



Management Options: Hand-pulling small patches, insects, herbicide, and re-seeding as follow-up.

yellowflag iris (*Iris pseudacours*)

Flower: Pale to deep yellow flowers, some have light brown to purple veins or flecks.

Seed/Fruit: Three angled 1-4 inches long. Contains many flat brown seeds.

Leaves: Long, linear, dark green leaves emerge from ground in fanlike arrangement. Smooth edged, sword-like with a pointed tip and raised midrib.

Stems: 3 to 4 feet tall, round to flattened.

Root: Bulbs, rhizomes, and seeds.

Life Cycle: Perennial.

Damage Potential/Toxic: Horses, cattle, sheep , and goats.



Management Options: Hand-pulling small patches, herbicide, and reseeding as follow-up.

flowering rush (*Butomus umbellatus*)

Flower: 20-50 flowers grow in a round cluster that resembles an umbrella. Each flower is 3/4 - 1 inch wide with six light pink to rose-colored petals.

Seed/Fruit: There are six carpels, each can produce about 200 seeds.

Leaves: Narrow and twisted towards the leaf tip and are triangular in the cross section. Leaves suspend in the water column in deeper water.

Stems: Grows in an upright foliage in shallower waters.

Root: Roots are fleshy and rhizomatous with white knobby structures from which the new leaves will emerge.

Life Cycle: Perennial, buoyant rhizomes that fragment easily.

Damage Potential/Toxic: Plants interfere with boat propellers, swimming, and fishing.



Management Options: Mechanical, cultural, or chemical.

Eurasian water milfoil (*Myriophyllum spicatum*)

Flower: Rigid, pink flowering spike, 2 - 8 inches long, held erect above water surface. Small yellow flowers arranged in clusters.

Seed/Fruit: Hard, segmented capsule contains four seeds.

Leaves: 3-4 bright green leaves 1-1/4 inch long with 12- 48 threadlike divisions are whorled around stem at each joint. Leaves rarely extend above water.

Stems: Slender, hairless, leafless toward base, 10 feet long or longer and 1/10 inch thick. Grows to waters surface then branch forming a dense floating mats.

Root: Numerous at base and long stem.

Life Cycle: Aquatic perennial plant that reproduces by rhizomes.



Management Options: Water draw down, complete removal of plant by divers, and herbicide.

reed canarygrass (*Phalaris arundinacea*)

Flower: Single flowers occur in dense clusters in May to mid-June. Green to purple early in the season and change to beige over time.

Seed/Fruit: Seeds are shiny brown in color.

Leaves: 2-9 feet in height, blades 3 ½ - 10 inches long. Blades are flat and have a rough texture on both surfaces.

Stems: One of the first grass to sprout in the spring. 2-9 feet tall growing. The stem is hairless and stands erect.

Root: Thick rhizome system.

Life Cycle: Perennial. Adapted to wet soils, it spreads by underground stems and attaches to solid sod.



Management Options: Burning, excavation, tree/shrub planting, grazing, mowing or harvesting (haying), and herbicide, tillage, altering hydrology, and mulching/solarization with plastic or fabric.

cheatgrass (*Bromus tectorum*)

Flower: Light green, occur in the nodding, open inflorescence. Color changes from green to purple to brown as plant matures.

Seed/Fruit: 3/8 inch long seed, with an awn equal to or greater than length of the seed.

Leaves: Light green and hairy, sheaths fused to the node at the bottom. Upper leaf sheaths may be smooth, lower sheaths are hairy. Each leaf has a membranous ligule where it separates from the stem.

Stems: 4-30 inches tall, slender and erect.

Root: Finely divided and fibrous.

Life Cycle: Annual or winter annual.

Damage Potential: In animals, seed can work itself into paws, nose, ears. It has barbed end and can migrate in one direction and is difficult to remove.



Management Options: Grazing, herbicide, hand pulling/digging, and cultivation.

Glossary

biennial	A plant that lives for two growing seasons, normally producing a basal rosette the first year and the flower and fruit the second year.
bract	A small leaf-like structure surrounding or enclosing the flower, usually below the petals.
carpels	Seed-bearing structures that constitutes the innermost whorl of a flower. Fertilization of an egg within a carpel by a pollen grain from another flower results in seed development within the carpel.
ligule	A scale like projection on a plant.
margins	The edge of a leaf.
monocarpic	Plant flowers once during its life cycle, and then dies following seed production.
oblanceolate	Lance-shaped, both ends tapered but wider towards the leaf tip.
pedicles	A small stalk or stalk-like part bearing a single flower.
perennial	Plants which live two or more years.
roots	The usually underground part of a seed plant body that originates usually from the hypocotyls, functions as an organ of absorption, aeration, and food storage.
rhizomatous	Having rhizomes.
rhizomes	A horizontal stem growing beneath the ground which can develop roots or sprouts at the joints.
rosette	A cluster of leaves radiating out from the base of the plant.
sepals	petal-like structures that surround the flowers, are typically smaller than the petals but can occasionally be colorful like the petals.
stamens	Pollen-bearing reproductive organ of a flower.
taproot	The primary descending root along the vertical axis of the plant which is larger than the branching roots.



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