



Bird Vetch

(*Vicia cracca*)



Identification:

- ✓ Climbing vines up to 6ft. Long
- ✓ Leaves have 10-20 lance-shaped leaflets
- ✓ 20-60 purplish flowers

Impacts:

- ✓ Increase landscaping & maintenance costs
- ✓ Forms dense mats and climbs other plants, choking out native vegetation.
- ✓ Can alter soil conditions through nitrogen fixation.

Control Methods:

<i>Hand Pulling</i>	<i>Mecanical (Tillage/Mowing)</i>	<i>Herbicide</i>	<i>Competition</i>	<i>Biological</i>
Effective with small infestations if treatment is repeated several times per year for several years.	Repeated tillage/ Mowing can be an effective control.	Herbicides can provide effective control.	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species.	Bio-control requires a very large established infestation and is a very lengthy process along with relatively high environmental risks.

Preventative and early detection rapid response methods are always the most effective and cheapest ways to manage invasive species. Integrated Pest Management (IPM) usually yields the best results for control after an infestation has occurred. ***"IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks."*** National IPM Network



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Hempnettle

(*Galeopsis bifida*)



Identification:

- ✓ 6" – 3 feet high
- ✓ Purple to white flowers
- ✓ Opposite, oblong, serrated leaves
- ✓ Often mistaken as Mint

Impacts:

- ✓ Major agriculture and garden weed that can significantly reduce productivity
- ✓ Once established it is difficult to control
- ✓ Each plant can produce up to 2,800 seeds which can remain viable for several years.

Control Methods:

<i>Hand Pulling</i>	<i>Mecanical (Tillage/Mowing)</i>	<i>Herbicide</i>	<i>Competition</i>	<i>Biological</i>
Effective with small infestations if treatment is repeated several times per year for several years	Not Effective - tilling can bring seeds to the surface and cause another flush of hempnettle.	Herbicides can provide effective control.	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species.	Bio-control requires a very large established infestation and is a very lengthy process along with relatively high environmental risks.

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Yellow Toadflax

(*Linaria vulgaris*)



Identification:

- ✓ Up to 2 1/2 feet high
- ✓ Yellow flowers w/ orange throat 1-2 inches long in dense terminal clusters
- ✓ Alternate, narrow, pale green leaves
- ✓ Has creeping rhizomes
- ✓ Often mistaken as snapdragons

Impacts:

- ✓ Persistent and aggressive invader capable of forming dense colonies.
- ✓ Mildly poisonous to livestock
- ✓ Alternate host for plant disease

Control Methods:

<i>Hand Pulling</i>	<i>Mecanical (Tillage/ Mowing)</i>	<i>Herbicide</i>	<i>Competition</i>	<i>Biological</i>
Effective with small infestations if treatment is repeated several times per year for several years.	Effective in eliminating seed production.	Herbicide can be very effective, especially when used as a follow-up to other control methods.	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species.	Bio-control requires a very large established infestation and is a very lengthy process along with a relatively high environmental risks.

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Steve Hast, USDA NRCS PLANTS Database, Bugwood.org

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Perennial Sowthistle

(*Sonchus arvensis*)



Michael Rasy, University of Alaska, Bugwood.org

Identification:

- ✓ 2-4 feet tall w/ extensive rhizomes
- ✓ Alternate, lanceolate leaves, 2½-16 inches long w/ prickly margins
- ✓ 1-2 inch wide yellow flowers
- ✓ All plant parts have milky white sap

Impacts:

- ✓ Prolific seeder
- ✓ Rhizome fragments produce new plants
- ✓ Resistant to some common herbicides, making control difficult
- ✓ Can form dense stands, significantly reducing water and nutrient resources.

Control Methods:

<i>Hand Pulling</i>	<i>Mecanical (Tillage/Mowing)</i>	<i>Herbicide</i>	<i>Competition</i>	<i>Biological</i>
Not Effective, root fragments can produce new plants. Should only be done if the infestation is small and w/ young undeveloped root systems.	Repeated mowing can deplete nutrient reserves and reduce seed production. Tillage is not effective and may increase spread.	Effective, but resistant to some common broad-leaf herbicides.	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species.	Bio-control requires a very large established infestation and is a very lengthy process along with a relatively high environmental risks.

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Tom Heints, USDA Forest Service, Bugwood.org



Richard Old, XID Services, Inc., www.ipmimages.org

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White Sweetclover

(*Melilotus alba*)



Michael Shephard, USDA Forest Service, www.forestryimages.org

Identification:

- ✓biennial plant 2 to 5+ feet tall
- ✓Trifoliate, alternate leaves, 1/2 - 2 inches long
- ✓Many white flowered terminal and auxiliary racemes

Impacts:

- ✓Lures pollinators away from native flowers
- ✓Out-competes native vegetation
- ✓Forms dense stands
- ✓Alters soil conditions by fixing nitrogen and changing sedimentation rates of river ecosystems
- ✓Alternate host for plant viruses
- ✓Can produce up to 350,000 seed per plant

Control Methods:

<i>Hand Pulling</i>	<i>Mecanical (Tillage/Mowing)</i>	<i>Herbicide</i>	<i>Competition</i>	<i>Biological</i>
Effective with small infestations and repeated treatments	Effective with several treatments over several years to deplete the seed bank.	Effective, but Sweetclover often invades areas (i.e. floodplains) which have too many environmental risks or limited access to use chemical control	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species.	Bio-control has not been investigated because sweetclover is valued as a forage crop.

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Michael Shephard, USDA Forest Service, www.forestryimages.org



Steve Dawley, Utah State University, Bugwood.org

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Foxtail Barley

(*Hordeum jubatum*)



Michael Shepard, USDA Forest Service, www.forestryimages.org

Identification:

- ✓ Annual or biennial plant
- ✓ Has greenish-reddish spikes on the seed head
- ✓ Numerous bristle-like awns 1 - 4 inches long

Impacts:

- ✓ Although it is considered a native species to parts of Alaska, it is thought to be invasive in areas of human disturbance
- ✓ Can cause physical harm to pets, livestock, and wildlife
- ✓ Difficult to control in pastures, hay land, and other grassy areas

Control Methods:

<i>Hand Pulling</i>	<i>Mecanical (Tillage/Mowing)</i>	<i>Herbicide</i>	<i>Competition</i>	<i>Biological</i>
Effective in small infestations. Seeds must be destroyed, or will likely become mature/viable after being pulled.	Repeated tillage is an effective control. Repeated mowing can be a fair control method.	Effective, but not if foxtail is growing with a grass crop.	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species.	Bio-control requires a very large established infestation and is a very lengthy process along with relatively high environmental risks.

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Dave Powell, USDA Forest Service, www.ipmimages.org



Steve Dewey, Utah State University, www.ipmimages.org

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Ornamental Jewelweed

(Impatiens glandulifera)



Identification:

- Herbaceous annual plant growing 3 to 6 ft tall
- Stems erect, hollow, reddish & multi branched
- Leaves are large, simple, oblong & about 6 inches long & sharply toothed
- One inch flowers in sparse clusters
- Flower color from white to pink

Impact:

- Aggressive competitor, replaces native species
- Forms dense stands, can alter water flow
- Negative impact on pollinators & wildlife habitat

Control Methods:

<u>Hand Pulling</u>	<u>Mechanical</u>	<u>Herbicide</u>	<u>Competition</u>	<u>Biological</u>
Small infestations Can be effective if done <u>before</u> seed is set, and must be cut below the lowest node, close to the soil, plant is shallow rooted	Mowing and cutting can work if done before the seed is set and <u>below</u> the lowest node	Can be effective if applied before flowering	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species	No specific biological control agents are known at this time

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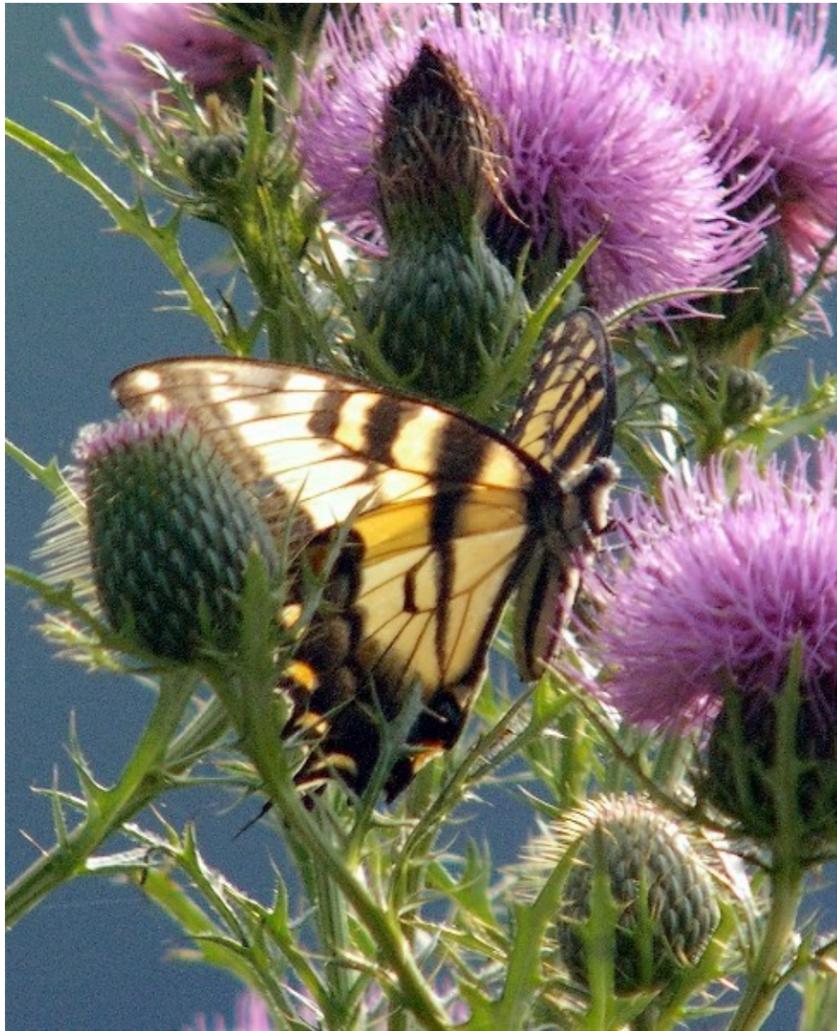


Canada Thistle

(Cirsium arvense)



Identification:



- Perennial that grows one to five feet tall
- Ridged branching stems
- Woolly hairs on underside
- Leaves arise directly from stem are alternate & margin spiny
- Flowers purple or pink
- Very deep seated root system

Impact:

- Reduces forage
- Competitor for light, moisture & nutrients
- Forms dense patches, spreads quickly
- Crowds out forage grasses

Control Methods:

<p><u>Hand Pulling</u> Cut before June, least root reserves, cut re-growth each time buds appear, carefully dig up new plants, <u>follow-up</u> required</p>	<p><u>Mechanical</u> Do NOT cultivate or till until plants have been controlled. Herbicide combine with mowing to weaken root. Follow-up & carefully cleaning of equipment needed</p>	<p><u>Herbicide</u> Consistent mowing can increase effectiveness of herbicide because it weakens root system. Control entire infestation</p>	<p><u>Competition</u> Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species</p>	<p><u>Biological</u> Maintain a healthy pasture, do <u>not</u> over graze, closely monitored goats and sheep can be used.</p>
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Common Tansy

(Tanacetum vulgare)



Identification:

- *Aromatic perennial 2 to 6 feet tall, purplish stems*
- *Each flower head has 20-200 button-like disk flowers*
- *Alternate leaves, deeply toothed, appear fern-like in spring*
- **Impact:**
- *Mildly toxic to animals & humans*
- *Spreads in pastures, roadsides & streambanks by both seed & rhizomes or in hay*
- *Few natural predators,*

Control Methods:

<p><u>Hand Pulling</u> Mildly toxic plant, Use gloves Plants must be bagged, seeds remain viable after pulling. Follow up required for many years</p>	<p><u>Mechanical</u> Mowing will <u>not</u> control common tansy. Can re-sprout same year Cultivation can be effective</p>	<p><u>Herbicide</u> Selective Broadleaf Herbicides during active growth, do not mow until after weeds are brown & dead</p>	<p><u>Competition</u> Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species</p>	<p><u>Biological</u> No known biological control for common tansy exists at this time</p>
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Narrowleaf Hawksbeard

(Crepis tectorum L.)



Identification:

- *Shallow rooted, annual, can reach height of 3 feet*
- *Stem single, branched, erect, hairless and quite leafy*
- *Yellow flower-heads up to 1 inch*
- *Primarily found in fields, pastures, roadsides and waste areas*

Impact:

- *Competes with seedlings, forage plants, cereals & oilseeds*
- *Spreads in riparian areas and disturbed lands*
- *Reduces water availability*
- *Displaces native colonizers on disturbed lands*

Control Methods:

<p><u>Hand Pulling</u> Can be pulled by hand in small infestations - Bag plants, seeds are viable for up to five years</p>	<p><u>Mechanical</u> Can be controlled by repeated mowing Should be monitored for Re-growth</p>	<p><u>Herbicide</u> Options Available</p>	<p><u>Competition</u> Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species</p>	<p><u>Biological</u> No biological in State at this time</p>
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Oxeye Daisy

(Leucanthemum vulgare)



Identification:

- Perennial 1 to 3 feet tall
- Shallow, branched rhizomes & adventitious roots
- Leaves small & coarsely toothed
- Flowers middle of June to August yellow centered white flower heads

Impact:

- Problems in pasture, & crop lands creating loss of production
- Reduced carrying capacity
- Forms dense populations
- Increases soil erosion

Control Methods:

<u>Hand Pulling</u>	<u>Mechanical</u>	<u>Herbicide</u>	<u>Competition</u>	<u>Biological</u>
Only works with small patches. Must be bagged and removed from site—site must be re-seeded and on-going follow-up at site	Shallow root, can be killed by intensive cultivation Mowing has limited success, needs follow-up for new growth	2, 4-D type herbicides work Nitrogen fertilizer has also worked while increasing grass cover	Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species	Horses, sheep and goats will eat Check wild seed mixes for plant Do not let plant go to seed

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Spotted Knapweed

(Centaurea biebersteinii)



Identification:

- Biennial plant 1 to 3 feet tall
- Stout taproot
- Basal rosettes
- Leaves alternate 2 to 6 inches long
- Pink to purple ray florets, Solitary at end of stem

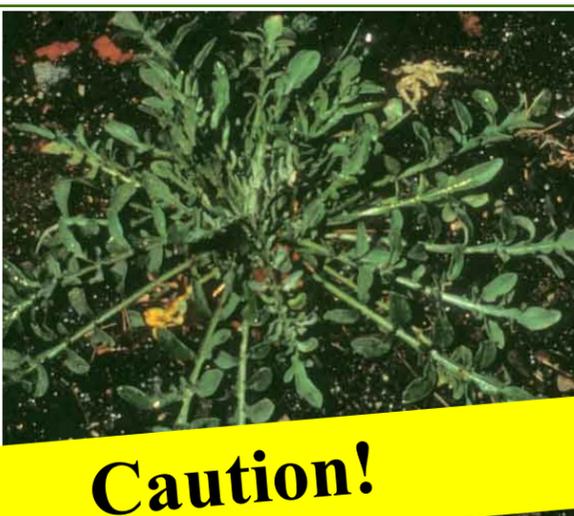
Impact:

- Forms dense stands
- Reduces vigor of native plants
- Reduces plant diversity

Control Methods:

<p><u>Hand Pulling</u> Effective if there is follow-up several times per year for several years, best before flowering, use shovel</p>	<p><u>Mechanical</u> Mowing will <u>not</u> control knapweed</p>	<p><u>Herbicide</u> For large or established infestations Selective broad-leaf herbicides</p>	<p><u>Competition</u> Maximizing the competitiveness of desired plants by adding or adjusting fertilizers, pH, seeding rates, watering, insect/disease control, etc. can be effective in reducing weedy species</p>	<p><u>Biological</u> Goats are effective and <u>must</u> be on the land for several years</p>
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