

INVASIVE PLANT POCKET GUIDE



Publication of the Greater Yellowstone
Coordinating Committee



WELCOME TO THE GREATER YELLOWSTONE COORDINATING COMMITTEE

The Greater Yellowstone Coordinating Committee consists of the federal land managers from Yellowstone and Grand Teton National Parks, the Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer Gallatin, and Shoshone National Forests, the National Elk Refuge, Red Rock Lakes National Wildlife Refuge and the BLM in Idaho, Montana and Wyoming. The managers of these units identified invasive species as one of the top management priorities for the Greater Yellowstone Area (GYA).

The GYA Terrestrial Invasive Species Subcommittee includes invasive species coordinators from each GYA unit, county weed and pest staff, state, county and other federal weed managers who work together on common inventories, establishment of cooperative weed management areas, development of best management practices, creation of education and information materials and coordination of integrated management to manage and prevent the spread of invasive species.

“Transcending Boundaries in one of America’s Most Treasured Ecosystems”

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INTRODUCTION

We are fortunate to be able to live, work and play in one of America's most treasured areas – the Greater Yellowstone.

Noted for its abundant wildlife, clean water and diverse and largely undeveloped natural landscapes, the natural vegetation communities that evolved here are the basic fabric that hold the ecosystem together.

These natural vegetation communities are threatened by non-native, introduced species referred to as invasive species.

Invasive plants are those plants not native to a region which, when introduced either accidentally or intentionally, out-compete native plants for available resources, reproduce prolifically, and potentially dominate regions and ecosystems. Because they often arrive in new areas unaccompanied by their native predators, invasive species can be difficult to control. Left unchecked, many invasive plants have the potential to transform entire ecosystems as native species and those that depend on them for food, shelter, and habitat, disappear.

The threats are real. Already numerous invasive plants are es-

tablished in parts of the Greater Yellowstone Area, and new species are discovered almost every year. Imagine, the northern winter range, home to one of the largest free-ranging elk herds in North America, dominated by unpalatable invasive species. Already, Dalmatian toadflax occupies nearly 6,000 acres of the northern winter range in Yellowstone National Park and is now moving north on the Custer Gallatin National Forest.

Envision the banks of the Firehole or Henry's Fork River choked with leafy spurge. Over 2,500 acres of the Island Park Ranger District are infested with leafy spurge.

What if the winter range on the Shoshone National Forest, home to the largest bighorn sheep herds in North America, is overtaken with Dalmatian toadflax? Dalmatian toadflax increased from four





acres in 1985 to over 2,000 acres in 1997 on winter range within the South Fork Shoshone drainage.

Picture the foreground of one of America's most spectacular views, the Grand Tetons, spoiled by non-native plants.

Several new invaders recently discovered in Grand Teton National Park include meadow hawkweed, sulfur cinquefoil, Dyer's woad, Russian knapweed, and perennial pepperweed.

These examples may seem like a lesson in history. However, we have just begun to see the scope of the massive degradation that will occur in the future – if we allow that to happen. Invasive plants typically increase exponentially, beginning slowly then doubling and redou-

bling.

The Greater Yellowstone is too precious for invasive species. It will take a concerted and continuous effort by those who work and play here to help protect the natural vegetation communities and the species that depend upon these communities from the threats posed by these invaders.





STOP INVASIVE SPECIES IN YOUR TRACKS

The PlayCleanGo campaign is a preventative outreach message that is meant to help elevate the issue of invasive species on a nationwide scale.

The intent is to provide outdoor enthusiasts with a clear call to action to become attentive and accountable for helping stop the spread of invasive plants, animals, insects, and pathogens. PlayCleanGo isn't just a slogan for us in the GYA, it's a way of life, a code, an attitude that we carry throughout our lives. Whether we are playing outdoors with our families, hiking, hunting, boating, gardening, or horseback riding, we can ALL do our part to prevent the spread of invasive species!

HELP PREVENT THE SPREAD OF INVASIVE PLANTS AND ANIMALS

- **REMOVE** plants, animals & mud from boots, gear, pets & vehicle.
- **CLEAN** your gear before entering & leaving the recreation site.
- **STAY** on designated roads & trails.
- **USE CERTIFIED** hay & local firewood.

Also, the sooner you report weeds the better for a chance of control. Use EDDMapS West (See next page) or call your local weed management agency.

See page 82 for a list of phone numbers.

LANDOWNER INVASIVE PLANT CONTROL KEY



INTEGRATED PLANT MANAGEMENT (IPM)

Using all available tools to target different aspects of a plants biology for increased control.



MECHANICAL

Effective for some species.
Mow before plants go to seed
-or- remove entire root with tools or hand pulling (wear gloves). Dispose of flowers and seed heads in a plastic bag in the trash.



CHEMICAL

Use of herbicides.



CULTURAL

Reseeding/revegetation is an important component of IPM along with other practices.



These are generalized control options only.
Your situation is unique.

PLEASE CALL your local District office for more information! See page 82 for a list of phone numbers.



EDDMapS

find • map • track



Early detection of new invasive species infestations and rapid, coordinated responses are needed to eradicate or contain invasions before they become too widespread and control becomes technically and financially impossible.

Prevention and early detection rapid response efforts are most effective when information is shared at the regional level.

It is going to take all of us land owners, land managers, universities, recreationists, agency personnel, and concerned citizens working together and sharing information as quickly as possible, to keep ahead of new invaders. We encourage you to use EDDMapS West to report sightings of invasive species.

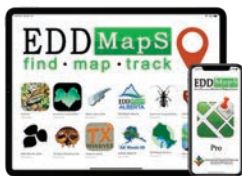
Users simply enter information from their observations into the standardized online data form or with the phone app, which allows

specific information about the infestation and images to be added. Data entered is immediately loaded to the website, allowing real time tracking of species. Being able to see the current data of a species as it moves into a new area helps to facilitate Early Detection and Rapid Response programs (EDRR).

EDRR programs help stop or control an invasive species before it becomes an unmanageable problem. All data is reviewed by state verifiers to ensure accuracy then made freely available.

Check out the website and see how easy it is.

<https://www.eddmaps.org/west/>





WHY SHOULD I CARE?

Invasive plants are taking over on private and public lands in the Greater Yellowstone area. Left unchecked they will limit many uses now and for future generations. Invasive plants negatively alter water systems,

wildlife habitat, and recreation areas forever. The longer they are left to spread the more expensive they are to control. Help us to be part of the solution rather than part of the problem.

INVASIVE PLANT IDENTIFICATION

Identifying weeds is important for early detection and eradication of new weed infestations, containment of existing infestations, prevention of weed spread, and implementation of weed management and monitoring programs.

When collecting unknown plants, always collect as much of the plant as possible. This includes digging the root, collecting basal leaves, flowering stalks and stems, and any flowers, fruits and seeds from the plant or other identical plants in the area. It is also helpful to collect more than one flower. Plants should

be placed in a plastic bag, kept cool, and sent for identification as soon as possible. Recording location and site information on the bag can aid in identification – for example, the date and area collected, elevation, slope, aspect, and the type of plant community where it was collected. Plant specimens can be brought to unit coordinators, botanists, or ecologists.

For each species, we have noted whether pulling the plant or the flowers is appropriate, and whether the plant is considered toxic.



Austrian Fieldcress
Rorippa austriaca (Crantz) Besser

GYCC Classification:

New invader

Growth Habit: Herbaceous perennial, erect from 2 - 4 feet tall.

Leaves: Alternate, lower leaves with petioles and large lobed margins, middle to upper stem leaves have toothed or smooth margins, clasp stem.

Stems: Upright stems branched near the tips, usually hairless.

Flowers: Small, yellow, 4 petals, formed at ends of branches on racemes.

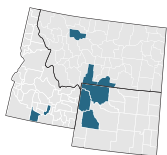
Roots: Taproots are deep, thick and fleshy, some roots creep.

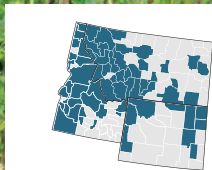
Reproduction:

seeds: globular seed pods containing small, reddish brown to black, rough seeds; vegetative: shoots are formed off creeping roots and from root stock.

Other: Spreads readily in riparian and disturbed sites.









Common St. Johnswort
Hypericum perforatum L.

GYCC Classification:

Localized invader.

Growth Habit: Herbaceous perennial, erect, numerous branches.

Leaves: Opposite, attached directly to stem, 1 inch long, oblong, covered with transparent glands visible when held up to the light.

Stems: Woody at the base, 1 to 3 feet tall, rust colored with 2 longitudinal ridges.

Flowers: Yellow, 3/4 inch diameter, numerous in flat-topped clusters, 5 petals with numerous stamens.

Roots: Branched and deep, some shallow and capable of sending up shoots.

Reproduction:

seeds: small, shiny black, with rough texture in a round, pointed, somewhat conical, three-part seed pod;
vegetative: new shoots are produced from rhizomes.

Other: Contains a toxic substance which causes light-haired animals to become sensitive to sunlight.





Common Tansy
Tanacetum vulgare L.

GYCC Classification:
Broad scale invader.

Growth Habit: Semi-woody perennial, erect, bushy, up to 6 feet tall.

Leaves: Dark green, alternate, deeply divided into numerous narrow, toothed leaflets (fern-like).

Stems: Often purplish-red in color, may be woody at base.

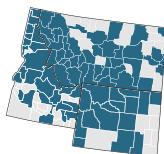
Flowers: Yellow, button-like, without petals, individual flowers are 1/2 inch across and form flat-topped, dense clusters.

Roots: Dense rhizomes and fibrous roots.

Reproduction:

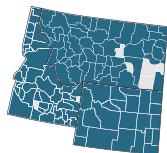
seeds: yellowish brown with short, 5-toothed crown;
vegetative: shoots are readily produced from rhizomes forming dense stands.

Other: Escaped European aromatic ornamental and medicinal plant.





Top Right: Washington State Noxious Weed Control Board





Dalmatian Toadflax

Linaria dalmatica

GYCC Classification:

Broad scale invader.

Growth Habit: Herbaceous perennial, erect up to 5 feet tall, usually 1 to 3 feet.

Leaves: Waxy, light green, alternate, broad, heart-shaped, clasping the stem.

Stems: Single to multiple stalks from base, branched at top, light green, smooth and leafy.

Flowers: Snapdragon-like, bright yellow, tinged with orange, 3/4 to 1 1/2 inch long spur, born in upper leaf axils.

Roots: Vigorous, deep and extensive, creeping roots.

Reproduction:

seeds: pods hold up to 250 seeds, irregularly angled/winged; vegetative: rhizomes produce new shoots.

Other: Introduced from Mediterranean as an ornamental.





Dyer's Wood

Isthis tinctoria L.

GYCC Classification:

Localized invader.

Growth Habit: Biennial or perennial, up to 3 feet tall. Rosette formed 1st year, flowering stem elongates in 2nd year.

Leaves: Basal rosette leaves are long with soft, fine hairs, stem leaves are alternate, have short basal lobes clasping the stem and are hairless, all leaves have white mid-vein.

Stems: Upright stems branched near the tips, usually hairless.

Flowers: Small, yellow, 4 petals, 1/8 inch across, formed in panicles at ends of branches.

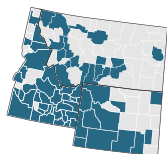
Roots: Taproot.

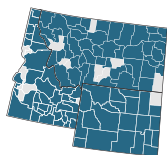
Reproduction:

seeds: produces many slightly pear-shaped, winged black seed pods 1/2 inch long that hang like ornaments. Each pod contains one seed.

Other: Formerly cultivated in Europe as a source of indigo dye.









Marsh/Perennial Sowthistle
Sonchus arvensis L.

GYCC Classification:

Broad scale invader.

Growth Habit: Herbaceous perennial, up to 5 feet tall.

Leaves: Alternate, lance-shaped, some may be shallowly lobed to deeply lobed or entire, 2 inches wide and up to 12 inches long, with winged stalks and prickles on the margins, size decreases up the plant.

Stems: Branched only at the top.

Flowers: Compound, bright yellow and resembles dandelion flowers, 1.5 inches in diameter.

Roots: Extensive horizontal root system that can grow 10 feet deep.

Reproduction:

seeds: dark brown seeds prominently ridged, tufts on one end allowing for wind dispersal; vegetative: new shoots emerge from root stock.

Other: Entire plant contains a milky sap.





Meadow/Yellow Hawkweed

Hieracium caespitosum Dumort.

GYCC Classification:

Localized invader.

Growth Habit: Herbaceous perennial, erect to 12 inches tall.

Leaves: Lance-shaped, hairy, leaves are basal, occasionally 1 to 2 small leaves on stem, covered in a whitish or bluish waxy coating, leaf tops are smooth and underside has sparse bristly hairs.

Stems: Erect, bristly, terminate in an umbel of flowers.

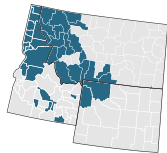
Flowers: 5 to 30 per plant in umbles, yellow petals, compound.

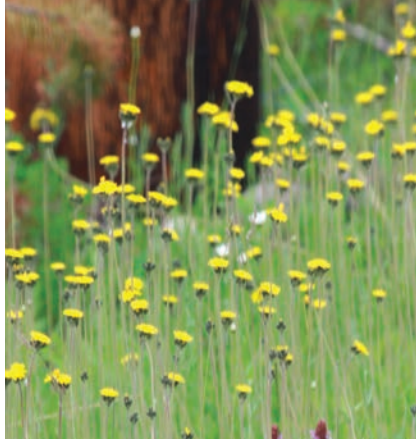
Roots: Fibrous.

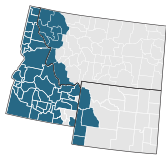
Reproduction:

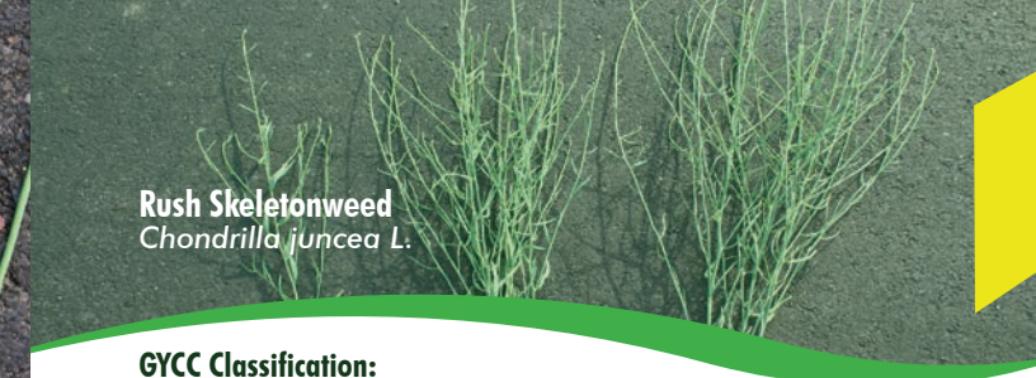
seeds: each flower can produce 12 to 50 tiny black seeds, dispersed by wind; vegetative: shoots emerge from lateral stems and roots.

Other: Entire plant contains a milky sap.









Rush Skeletonweed
Chondrilla juncea L.

GYCC Classification:

New invader.

Growth Habit: Herbaceous perennial, erect to 5 feet tall.

Leaves: Basal rosettes leave - sharply toothed, lance-shaped (dandelion-like), lobes are angle back toward center of plant. Upper leaves - inconspicuous, narrow, smooth margins.

Stems: Bottom 4 to 6 inches has numerous, red, downward bent coarse hairs. Stems smooth above. many branched.

Flowers: Yellow, 3/4 inch wide, scattered on branches. Seven to Fifteen strap-shaped petals are flat across the end terminating with distinct lobes or teeth.

Roots: Extensive and deep.

Reproduction:

seeds: pale brown to black, 1/8 inch long, several ribbed, smooth below with tiny scale projections above, terminated by a long beak with numerous soft, white bristles for wind dispersal; vegetative: lateral shoots and shoot buds.

Other: Introduced from Eurasia.





Sulfur Cinquefoil
Potentilla recta L.

GYCC Classification:

Localized invader.

Growth Habit: Herbaceous perennial, erect, may form a ring of plants as the older center dies out and new stems grow on the outside edges.

Leaves: Palmately compound, 7 leaflets, coarse stiff hairs on upper and lower surfaces, yellowish green.

Stems: One of several, 12 to 28 inches tall, branched near top, covered with hairs. numerous leaves along the stem, few at base.

Flowers: Clusters 1/2 to 1 inch in diameter, pale yellow, flat topped inflorescence, large yellowish-green buds. blooms late May and throughout summer.

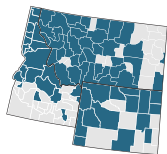
Roots: Shallow spreading roots.

Reproduction:

seeds: achenes, very tiny 1/20 inch in diameter, rough;
vegetative: roots can regenerate if cut and moved.

Other: Forms dense monocultures, reduces grass production.









Tall Buttercup
Ranunculus acris L.

GYCC Classification:
Localized invader.

Growth Habit: Herbaceous perennial, erect to 5 feet tall.

Leaves: One to three inches long, divided into three palmate lobes that are each divided into two or three segments, segments are thin, overall leaf shape diamond.

Stems: Hairy, hollow and leafy below, several stems arising from base.

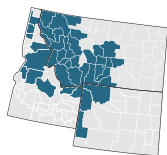
Flowers: 5 to 7 glossy yellow petals, radial symmetry.

Roots: Cluster of fibrous roots.

Reproduction:

seeds: short-hooked beak at the tip capable of being stuck in clothes or animal fur.

Other: Fresh buttercup plants are toxic to grazing animals, who can suffer from blisters, inflammation and diarrhea.





Yellow Toadflax
Linaria vulgaris Mill.

GYCC Classification:

Broad scale invader.

Growth Habit: Herbaceous perennial, often over 3 feet tall, erect, clump forming.

Leaves: Long and narrow, numerous, green, smooth and pointed, attached directly to the stem.

Stems: Smooth, erect and rarely branched.

Flowers: Snapdragon-like, 1 to 1 1/2 inches long with spur, bright yellow with deep orange center, occurring in clusters at tops of stems.

Roots: Woody, vigorous, well branched with many lateral shoots.

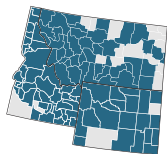
Reproduction:

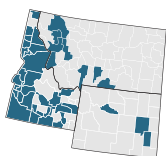
seeds: round, 1/2 inch in diameter, dark brown to black with papery circular wing; vegetative: new stems emerge from root stalks.

Other: Also called “butter-and-eggs” for the flower color.

Top: Michael Shepard/ USDA Forest Service/ Bugwood.org







Top Left: King County Noxious Weed Control Program
 Bottom: Washington State Noxious Weed Control Board



Yellow Starthistle
Centaurea solstitialis L.

GYCC Classification:

New invader.

Growth Habit: Annual, erect, rigid branching stems.

Leaves: Basal leaves deeply lobed, upper leaves not lobed, small, sharply pointed.

Stems: Rigid, covered with a cottony fiber, to 36 inches tall, winged structures.

Flowers: Yellow, terminal, bracts are tipped with straw-colored, 3/4 inch thorns.

Roots: Taproot.

Reproduction:

seeds: smooth, light-colored, often darker mottled, 1/8 inch long, notched just above the base.

Other: Causes “chewing disease” in horses, contains compounds that can lead to symptoms similar to Parkinson’s Disease.





Canada Thistle
Cirsium arvense (L.) Scop.

GYCC Classification:
Broad Scale invader.

Growth Habit: Herbaceous perennial, erect to 4 feet tall.

Leaves: Widely variable, light to dark green, oblong or lance-shaped, may be lobed or smooth, spines on leaf margin.

Stems: Smooth to slightly hairy, branched near the top.

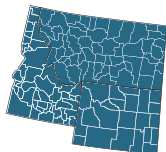
Flowers: Light pink to deep purple, clustered and bristly, 3/8 to 5/8 inches across.

Roots: Extensive, fleshy, creeping.

Reproduction:

seeds: small (1/8 inch) light to dark brown and windborne;
vegetative: produces new shoots from spreading rootstock.

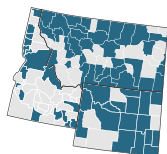
Other: Introduced from Europe, widespread throughout North America.







Elizabeth J. Casapata





Damesrocket
Hesperis matronalis L.

GYCC Classification:

Localized invader.

Growth Habit: Biennial to short-lived perennial, erect to 4 feet tall.

Leaves: Alternate, lance-shaped, with toothed margins.

Stems: Dense hairs and branched toward top.

Flowers: Usually purple, occasionally white to pink, flowers in clusters at tips of stalks, individual flowers are 4 petalled and 2 cm across.

Roots: Weak taproot.

Reproduction:

seeds: formed in long, slender pods; seeds are small and black to brown.

Other: Prolific seed producer, showy and often mistaken for phlox.





Houndstongue
Cynoglossum officinale L.

GYCC Classification:

Broad Scale invader.

Growth Habit: Biennial, forms a rosette in the first year then flowering stalk to 3 feet tall in second year.

Leaves: Basal leaves broad and lance-shaped with long petiole, upper leaves narrow and pointed clasping stem, all leaves covered in soft hairs, leaf surface has deep veins giving lower leaves the appearance of a dog's tongue.

Stems: Thick and erect, one to many emerging from basal rosette, may be branched.

Flowers: Deep purple to red, 1/4 inch wide emerging in terminal spikes.

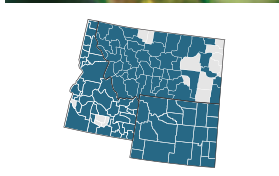
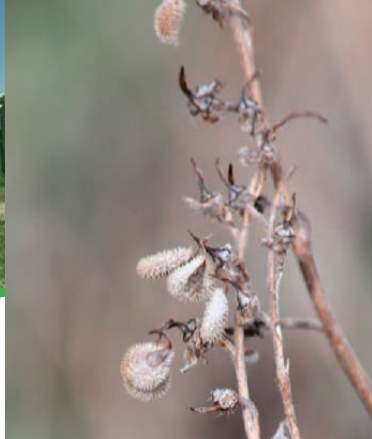
Roots: Taproot.

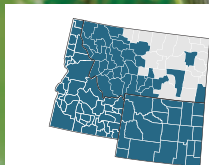
Reproduction:

seeds: emerge in clusters of four, individual seeds are flat, teardrop shaped with barbs, appear green on the plant and mature to dark brown, easily attach to animals and clothing to be transported elsewhere.

Other: Fresh and dried plant material, including leaves in hay, are toxic to most animals, including humans, causing liver failure.









Musk Thistle
Carduus nutans L.

GYCC Classification:

Broad Scale invader.

Growth Habit: Biennial, forms a flat rosette in the first year then large flowering plant to 7 feet tall in the second year.

Leaves: Green with light silver to silver pink margin, deeply lobed/toothed, smooth top and bottom leaf surface, long, sharp spines.

Stems: Thick stalks, single or many branched, spiny, vertical wings.

Flowers: Terminal, compound, pink to purple, large 1 1/2 to 3 inches in diameter, spiny pink to purple bracts.

Roots: Taproot.

Reproduction:

seeds: small and light to dark brown tipped with tufts of white hairs on one end for wind distribution.

Other: Sometime called nodding thistle because the flower heads droop on the stalks.





Purple Loosestrife
Lythrum salicaria L.

GYCC Classification:

New invader.

Growth Habit: Herbaceous perennial, erect to 8 feet tall.

Leaves: Simple, lance-shaped, smooth margins, opposite or whorled.

Stems: Branched, terminating in flowering stalks.

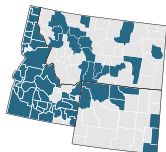
Flowers: Rose-purple, 5 to 7 petals with numerous stamens, in long, vertical racemes.

Roots: Thick, woody.

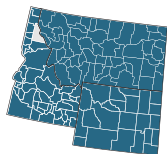
Reproduction:

seeds: produced in two-valved capsules, seeds are tiny and prolific; vegetative: mature plants can send up new shoots from roots.

Other: Found in riparian and aquatic areas.









Russian Knapweed
Rhaponticum repens (L.) Hidalgo

GYCC Classification:

Localized invader.

Growth Habit: Herbaceous perennial, erect to 3 feet tall, sometimes clump forming.

Leaves: Alternate, simple, dense, fine gray hairs; basal leaves - deeply notched; stem leaves - intermediate in size, slight toothed margins; upper leaves - small, narrow, unbroken edge.

Stems: Numerous branches terminating in a single flower, dense, fine gray hairs.

Flowers: Terminal, solitary, compound, white to purple, urn-shaped, 1/4 to 1/2 inch in diameter, smooth, papery bracts.


Roots: Extensive, dark brown to black, scaled.

Reproduction:

seeds: flattened and ivory colored; vegetative: rhizomes produces new shoots.

Other: Name is derived from the fine hairs that give the appearance of knap; causes "chewing disease" in horses, produces allelopathic compounds that inhibit growth of other plants.





Scotch Thistle

Onopordum acanthium L.

GYCC Classification:

New invader.

Growth Habit: Biennial, erect up to 8 feet tall.

Leaves: Large, coarsely lobed, hairy on both sides, velvety gray in appearance, margins are lined with sharp, conspicuous spines, basal leaves up to 2 feet long and 1 foot wide.

Stems: Erect, branching, spiny leaf wings extend down onto stem, covered with dense, fine hairs.

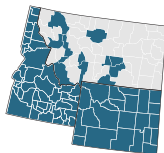
Flowers: Terminal, solitary, compound, violet to reddish in color, 1 to 2 inches in diameter, bulbed base covered in spiny bracts.

Roots: Large, fleshy taproot.

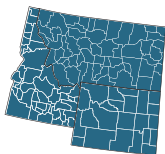
Reproduction:

seeds: deep brown to black, distinctly wrinkled, 3/16 inches long shoots from roots.

Other: Dense stands can be impenetrable to wildlife, livestock, and recreationists.









Spotted Knapweed
Centaurea stoebe L.

GYCC Classification:

Broad scale invader.

Growth Habit: Biennial occasionally short lived perennial, forms a rosette in the first year then sends up flowering stems in the second year.

Leaves: Lower leaves - long and divided; upper leaves - short and narrow; all covered with fine gray hairs.

Stems: Slender but tough branches, lower branches may appear woody, covered in fine gray hair.

Flowers: Terminal, solitary, compound, pale pink to purple, rarely white; flowers are urn-shaped; bracts are dark at tips.

Roots: Taproot.

Reproduction:

seeds: brown 1/8 inch long, notched on one side of base and short tuft of bristles at the top end.

Other: Dark bract tips give a spotted appearance giving spotted knapweed its name.





Saltcedar
Tamarix spp.

GYCC Classification:

Localized invader.

Growth Habit: Perennial, evergreen shrub or small tree.

Leaves: Small scalelike, similar to cedars, salty residue on foliage.

Stems: Numerous, slender, upright and highly branched, smooth reddish brown bark, become furrowed and ridged with age.

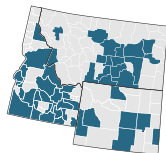
Flowers: Tiny, pink to white, five petaled, occurring on panicles at tips of stems.

Roots: Deep taproot and extensive rhizomes.

Reproduction:

seeds: small and easily dispersed by wind and water, prolific seed producer; vegetative: roots produce new plants, especially when in contact with water.

Other: Dropping of leaves changes the salinity of the soil and creates a white color giving this plant its name.









Blueweed
Echium vulgare L.

GYCC Classification:
Plant of Concern.

Growth Habit: Biennial, rosette formed in first year, second year grows erect to 3 feet tall.

Leaves: Basal leaves are simple, entire, and lanceolate to oblanceolate with a short petiole; stem leaves are alternate, lanceolate, do not have a petiole, and are progressively smaller up the stem; all leaves covered in bristly hairs.

Stems: Covered in bristly hairs that are red, purple, or black at the base giving a spotted appearance, stout, branched from base, each branch terminates in panicle of flowers.

Flowers: Arching panicles, funnel shaped, blue or purple fused petals, 5 unequal lobes, larger lobes at top and smaller lobes at bottom; 5 stamens are distinct pink or red and extend out of flower, one is usually shorter than others.

Roots: Taproot.

Reproduction:

seeds: brown or grey nutlets, rounded pyramid shape, 4 nutlets per flower, rough.

Other: Contains pyrrolizidine alkaloids which is poisonous to humans, horses, and cattle; acts as a host to aphids which can contaminate crops.





Black Henbane
Hyoscyamus niger L.

GYCC Classification:

Broad Scale invader.

Growth Habit: Biennial or annual, erect, shrubby.

Leaves: Alternate, coarsely toothed, shallowly lobed, very hairy. Foliage has a foul odor.

Stems: Erect, branched, 1-3 feet tall.

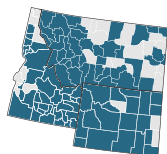
Flowers: Large, 1-2 inches in diameter, brownish-yellow with a purple center and purple veins. Flowers from upper leaf axils.

Roots: Medium taproot.

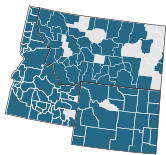
Reproduction:

seeds: tiny, black; hundreds in 1 inch long pineapple-shaped or vase-shaped seed capsules.

Other: All parts of this plants are toxic.







Left: K George Beck and James Sebastian / Colorado State University/ Bugwood.org
Top & Right: Matt Lavin / Montana State University (MSU)



Diffuse Knapweed
Centaurea diffusa Lam.

GYCC Classification:

Localized invader.

Growth Habit: Annual or biennial, bushy, up to 2 feet tall. Rosette formed first year, flowering stalk elongates second year.

Leaves: Greyish-green, alternate, basal leaves whorled and lobed. divided, upper leaves much reduced. Covered with fine hair.

Stems: Hairy, erect, single main stem from rootstock, branched near or above the base.

Flowers: Terminal, solitary (one per stem), usually white, sometimes pink, rose or lavender; bracts end as sharp rigid spines.

Roots: Elongated taproot.

Reproduction:

Seeds: oblong, dark brown or grey with longitudinal lines.

Other: May seriously reduce productive potential of infested rangelands.





Field Bindweed
Convolvulus arvensis L.

GYCC Classification:

Broad Scale invader.

Growth Habit: Herbaceous perennial, creeping and climbing vine.

Leaves: Alternate, simple, arrowhead-shaped, rounded or blunt tipped.

Stems: Prostrate, twining mat-forming, up to 10 feet long.

Flowers: Funnel-shaped, white and occasionally pale pink, up to 1 inch wide; two small scale-like bracts attached below flower on stem.

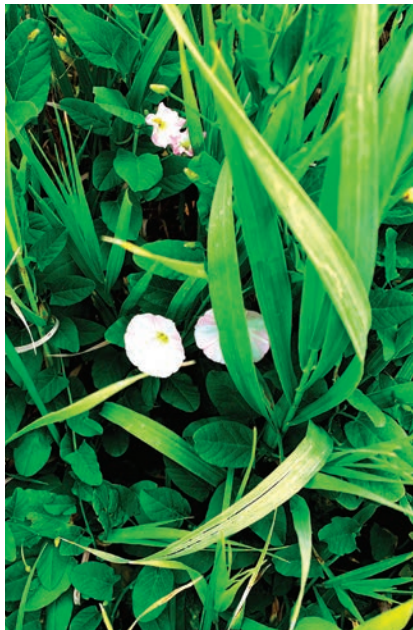
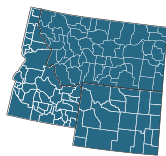
Roots: Creeping rhizomes, extensive.

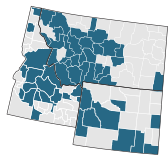
Reproduction:

seeds: four per capsule, dark grey to reddish brown, three sided; vegetative: rhizome pieces and root buds can produce new plants.

Other: Seeds viable over 60 years. Often confused with wild buckwheat which has heart-shaped pointed leaves and tiny, inconspicuous flowers.









Hoary Alyssum
Berteroa incana (L.) DC.

GYCC Classification:
Broad Scale invader.

Growth Habit: Annual to biennial, branching, erect to 3 feet.

Leaves: Leaves oblanceolate, small hairs give a rough texture, gray-green appearance, simple, entire, slightly folded at midvein giving a v-shape, whorled basal rosette, alternate and smaller up the stem.

Stems: Gray-green, rough texture from short hairs, one to several from base, branched at the top, terminate in flower clusters.

Flowers: Formed in racemes at the top of branches, blooming from bottom to top, small, white, 4 petals, each petal notched, seeds frequently forming at base while top of raceme elongates and flowers.

Roots: Taproot.

Reproduction:

seeds: green, oval seed pods/silicles form up the raceme, mature into brown pods; seeds are brown, oblong, with small wings on the edges, point on one end.

Other: Poisonous to horses even when cured in hay.






Oxeye Daisy
***Leucanthemum vulgare* Lam.**

GYCC Classification:

Broad Scale invader.



Growth Habit: Herbaceous perennial, flowering plants erect to 2 feet tall, rosettes mat-forming.

Leaves: Lower leaves - spoon-shaped, 2 to 5 inches long including short stalk, margins lobed or deeply parted. Upper leaves - lance-shaped, attached directly to stem, margins toothed.

Stems: Numerous from root crown, terminating in flowers.

Flowers: Daisy flowers, solitary, 1 1/2 inches wide, numerous white petals (ray flowers) and a yellow center (disk flowers). Flowers June to August.

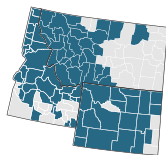
Roots: Fibrous.

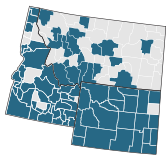
Reproduction:

seeds: straw colored, 1/8 inch long, ridged; vegetative: shallow branching rhizomes.

Other: Eurasian introduction, escaped from cultivation.









Perennial Pepperweed
Lepidium latifolium L.

GYCC Classification:
Localized invader.

Growth Habit: Herbaceous perennial, erect, 2 to 5 feet tall, numerous stems.

Leaves: Alternate, lance-shaped, bright green to grey-green, waxy, smooth to toothed margins, basal leaves larger than upper leaves.

Stems: Branched, smooth, waxy.

Flowers: Panicle of small white flowers in dense clusters near branch ends, 4 petals.

Roots: Form a semi-woody crown at soil surface, long and minimally branched.

Reproduction:

seeds: small, rounded and slightly flattened, slightly hairy 1/16 inch long, reddish brown; vegetative: new stalks produced from root stock.

Other: Frequently found in riparian areas where it readily spreads downstream.





White-top/Hoary Cress

Cardaria draba (L.) Desv. & *Lepidium draba* L.

GYCC Classification:

Broad Scale invader.

Growth Habit: Herbaceous perennial, bolting up to 24" tall, forming a basal rosette, erect.

Leaves: Alternate, lance-shaped and slightly irregular, greyish-green, base of upper leaves clasping stem, lower leaves covered in white hairs, toothed to entire.

Stems: Stout, branched toward top.

Flowers: Small, white, 4 petals; numerous flower branches and dense, white, flat-topped appearance, flowerheads resemble broccoli just before flowers open.

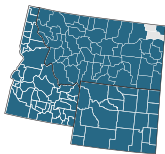
Roots: Extensive horizontally, and vertically, frequent shoots arising from root stocks.

Reproduction:

seeds: reddish-brown, granular, egg-shaped, contained in heart-shaped pods; vegetative: rhizomes, root buds, and lateral shoots.

Other: Flowers early (April - June), reproduces by seeds, rootstocks and creeping roots.







All images: Matt Lavin / Montana State University (MSU)



Giant Knotweed complex
Fallopia spp. and *Persicaria wallichii*

GYCC Classification:

New invader

Growth Habit: Herbaceous perennial, shrub-like, clusters of unbranched stalks from base, 4 to 12 feet tall.

Leaves: Varies slightly by species, large, 5 to 12+ inches, alternate, entire, heart-shaped to lanceolate, leathery, some species have hair on midvein.

Stems: Hollow, swollen at nodes, jointed giving a zigzag appearance in some species.

Flowers: Panicles of many tiny white to pink sometimes pale green flowers, some species have small panicles while others have large panicles, but all are delicate, borne in leaf axils or at stem and branch tips.

Roots: Extensive horizontally, and vertically, frequent shoots arising from root stocks.

Reproduction:

seeds: 3 sided achenes, usually brown, sometimes black, seeds are not the primary means of spread; vegetative: extensive reproduction from creeping rhizomes creating dense stands, some species capable of reproducing new plants from each node on stem.

Other: Complex of species including: giant, Japanese, and Bohemian knotweed (*Fallopia* spp.) and Himalayan knotweed (*Persicaria wallichii*).





Orange Hawkweed
Hieracium aurantiacum L.

GYCC Classification:

New Invader.

Growth Habit: Herbaceous perennial, erect to 10 - 24 inches tall.

Leaves: Basal leaves, lance-shaped, rounded, hairy, occasionally 1 to 2 leaves on stem.

Stems: Erect, bristly, terminate in an umbel of flowerheads.

Flowers: Red-orange, multi-petaled, petal tips are notched, 5 - 30 per plant, formed in umbels.

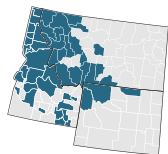
Roots: Fibrous.

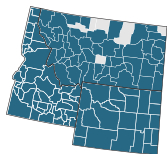
Reproduction:

seeds: small black, 12 to 50 per flower; wind dispersed;
vegetative: new shoots are formed on stolons and rhizomes.

Other: Entire plant produces a milky sap.









Downy Brome
Bromus tectorum L.

GYCC Classification:

Broad Scale invader.

Growth Habit: Cool season annual.

Leaves: Long and narrow (2 to 8 inches long and 2 to 4 mm wide), covered with soft, short hairs.

Stems: Slender, erect to 24 inches.

Flowers: Dense, slender, 1-sided branched, drooping, spikelets nodding, 5 to 8 flowered with soft downy hairs, cures to purple or red in midsummer.

Roots: Fibrous.

Reproduction:

seeds: slender and brown, attached to awns that have barbs that readily attach to clothing and fur.

Other: Forms dense stands with large amounts of biomass that alter fire regimes by burning hotter, faster, and more frequently than native vegetation.



Medusahead Rye

Taeniatherum caput-medusae (L.) Nevski

GYCC Classification:

New Invader.

Growth Habit: Winter annual 6-24 in. tall.
Bristly appearance.

Leaves: Narrow and rolled. Slightly hairy.

Stems: 1 or more, jointed and slightly hairy. Dark nodes.

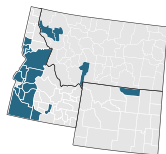
Flowers: Inflorescence a long awned spike nearly as wide as long. Each seed head 1-4 inches.

Roots: Fibrous.

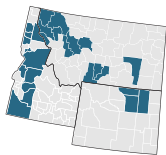
Reproduction:

seeds: caryopsis, 0.16 to 0.22 inches (4 to 5.2 mm) long, grooved along one side. Small hairs at top, and small silica barbs.





All images: Matt Lavin / Montana State University (MSU)



Top & Bottom Left and Top Right: Matt Lavin / Montana State University (MSU)
Bottom Right: Washington State Noxious Weed Control Board

Ventefata

Ventefata dubia (Leers) Coss.

GYCC Classification:

New invader.

Growth Habit: Erect winter annual grass 6-27 in tall. Found in low elevation drainages to dryer upland grassland and sagebrush ecosystems, pastures, hayfields, and croplands. usually on west or south facing slopes.

Leaves: Rolled or folded leaves 3/4- 3/8 in long with membranous ligule.

Stems: Smooth with fine hairs under magnification. dark reddish black nodes prominent.

Flowers: Inflorescence wiry open panicle to 8 inches long. Silvery green maturing to yellow-tan.

Roots: Shallow fibrous.

Reproduction:

seeds: caryopsis, 3mm long, hairless .

Other: Plants shiny when inflorescence develops.





Curly-Leaf Pondweed
Potamogeton crispus L.

GYCC Classification:

New Invader.

Growth Habit: Perennial submerged aquatic found in shallow waters of lakes, ponds and slow moving streams/ rivers.

Leaves: 1.5-4 in. long translucent with wavy margins-think lasagna noodles.

Stems: Lighter green than leaves-branched.

Flowers: Greenish to brown inconspicuous, emerged.

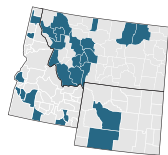
Roots: Rhizomatous.

Reproduction:

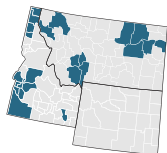
vegetative: leaf fragmentation, rhizomes, turions are brown, pinecone shaped and about 1/2 inch long, turions are the primary means of reproduction.

Other: Spread by watercraft and equipment.





All images: Ferry County Noxious Weed Control Board



All images: King County Noxious Weed Control Program



Eurasian Watermilfoil
Myriophyllum spicatum L.

GYCC Classification:

New invader.

Growth Habit: Perennial submerged (except flowering portion) mat forming aquatic found in still, shallow waters of lakes, ponds and slow moving streams/rivers.

Leaves: Finely dissected whorled leaves in groups of 4. 12 to 21 leaflet pairs.

Stems: 3 to 12 ft. Some to 30ft. Reddish brown, easily fragmented.

Flowers: Male flowers with 4 pink petals. Female flowers lacking sepals and petals.

Roots: Rhizomatous.

Reproduction:

vegetative: creeping roots and stem fragmentation.

Other: Introduced with common carp. Now spread by watercraft and equipment.



KEY CONTACTS

Idaho:

Caribou-Targhee National Forest - 208-524-7500

Bureau of Land Management, Idaho Falls DO - 208-524-7500

Idaho Dept of Fish & Game, Upper Snake Region - 208-525-7290

Harriman State Park - 208-558-7368

Henry's Lake State Park - 208-558-7532

Fremont County Weed Control - 208-624-7442

Madison County Weed Control - 208-356-3139

Teton County Weed Control - 208-821-0984

Montana:

Beaverhead-Deerlodge National Forest - 406-683-3900

Custer Gallatin National Forest - 406-587-6701

Bureau of Land Management, Dillon FO - 406-683-8000

Red Rock Lake National Wildlife Refuge - 406-276-3536

Carbon County Weed District - 406-962-3967

Gallatin County Weed District - 406-582-3265

Madison County Weed District - 406-842-5595

Park County Weed District - 406-222-4158

Stillwater County Weed District - 406-322-1106

Sweet Grass County Weed District - 406-932-3582

Wyoming:

Bridger-Teton National Forest - 307-739-5500

Shoshone National Forest - 307-578-5100

Bureau of Land Management, Cody FO - 307-578-5900

Bureau of Land Management, Lander FO - 307-332-8400

National Elk Refuge - 307-733-9212

Grand Teton National Park - 307-739-3678

Yellowstone National Park - 307-344-2003

Fremont County Weed & Pest District - 307-332-1052

Hot Springs County Weed & Pest District - 307-864-2278

Park County Weed & Pest District - 307-754-4521

Sublette County Weed & Pest District - 307-367-4728

Teton County Weed & Pest District - 307-733-8419

Notes

[illegible]



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