



Lower Owyhee Watershed Assessment

Appendix F. Weeds of special importance to the lower Owyhee subbasin

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E - These are weeds of economic importance to the land use indicated.
 T - These weeds are considered by the State of Oregon as an economic threat

- a. Present in the subbasin
- b. Riparian
- c. Rangeland

- d. Pasture
- e. Crop land
- f. Edges

Common name	Range Weeds Scientific name	In Malheur County	Land Use					
			a	b	c	d	e	f
Buffalobur	<i>Solanum rostratum</i>	Limited	Y		E	E		E
Bull thistle	<i>Cirsium vulgare</i>	Abundant	Y		E	E		E
Burr buttercup	<i>Ranunculus testiculatus</i>	Ubiquitous	Y		E	E		E
Canada thistle	<i>Cirsium arvense</i>	Abundant	Y		E	E	E	E
Cheatgrass	<i>Bromus tectorum</i>	Ubiquitous	Y		E	E		E
Dalmatian toadflax	<i>Linaria dalmatica</i>	Limited	N					
Diffuse knapweed	<i>Centaurea diffusa</i>	Limited	Y			E		
Halogeton	<i>Halogeton glomeratus</i>	Limited	Y			E		E
Houndstongue	<i>Cynoglossum officinale</i>	Limited	Y		E			
Leafy spurge	<i>Euphorbia esula</i>	Limited		T		E	E	E
Mediterranean sage	<i>Salvia aethiopsis</i>	Limited						
Medusahead rye	<i>Taeniatherum caput-medusae</i>	Abundant	Y			E		
Moth mullein	<i>Verbascum blattaria</i>	Limited	Y			E		
Musk thistle	<i>Carduus nutans</i>	Abundant	Y			E	E	E
Perennial pepperweed	<i>Lepidium latifolium</i>	Limited	Y		E	E	E	E
Poison hemlock	<i>Conium maculatum</i>		Y		E	E	E	E
Purple loosestrife	<i>Lythrum salicaria</i>	Abundant	Y	T	E			E

Rush skeletonweed	<i>Chondrilla juncea</i>	Limited	Y	T	E	E	E	E
Russian knapweed	<i>Acroptilon repens</i>	Limited	Y		E			
Saltcedar, tamarisk	<i>Tamarix ramosissima</i>	Abundant	Y		E	E	E	E
Scotch thistle	<i>Onopordum acanthium</i>	Abundant	Y			E	E	E
Spotted knapweed	<i>Centaurea maculosa</i>	Limited		T		E		
White top, Hoary cress	<i>Cardaria draba</i>	Abundant	Y		E	E	E	E
Yellow starthistle	<i>Centaurea solstitialis</i>	Limited	Y	T		E		E
Common name	Scientific name		Land Use					
			a	b	c	d	e	f

Some Selected Important Crop Weeds

Cheese weed, common mallow	<i>Malva parviflora</i>	Abundant	Y					
Dodder	<i>Cuscuta</i> spp.	Abundant	Y					
Field bindweed	<i>Convolvulus arvensis</i>	Abundant	Y					
Jointed goatgrass	<i>Aegilops cylindrica</i>	Limited						
Puncturevine	<i>Tribulus terrestris</i>	Abundant	Y					
Yellow nutsedge	<i>Cyperus esculentus</i>	Abundant	Y					

- a. Present in the subbasin
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a. *Buffalobur (Solanum rostratum)*

Buffalobur is a weed in the mid Snake region but is not currently a known problem in the Lower Owyhee Subbasin but is common in North America. Buffalobur is a yellow flowered annual that grows most frequently on disturbed, sandy soils. The yellow flowers have 5 petals as other Solanaceae and are about an inch across. The plant grows to about 2 feet tall and has deeply cut leaves 2 to 5 inches long.

b. *Bull thistle (Cirsium vulgare)*

This is a native plant to Eurasia; it has established itself throughout North America. It is a biennial, which has short, fleshy taproot. The first year the plant makes a small rosette near the ground. During the second season the plant puts up a stem 2-5 feet or more tall, with green, hairy leaves, that are prickly and have deep woven hairs on the upper side; on the bottom they feel cottony. The flowers are in big clusters at the end of the branches. The seeds then develop on top of the flower, with fluffy white on top of them, which are then picked up by the wind and spread all over; infesting more places with this noxious weed. This plant has reddish-purple flowers which appear between July and September. Horses consider this to be a delicacy, because the heads to the flowers are filled with sugary nectar. Some birds use the seeds as food. Bull thistle can be found in waste lands, along road sides, in fields and pastures, and many other places where there is disturbed soil.

c. *Bur buttercup (Ranunculus testiculatus)*

Bur buttercup or hornseed buttercup is a common low growing annual weed in the north western states. It is native to southeastern Europe. The plant grows 1 to 5 inches tall and has gray green leaves 1 to 4 inches long. Because of its short stature

and short growing season, it is often overlooked. Seeds germinate with the melting of snow or thawing of the soil in late winter to early spring, depending on elevation. Bur buttercup is very common, especially on disturbed soils. It can be competitive with small grain crops and is toxic to sheep. Bur buttercup seed heads are irritating to hands, knees, or bare feet and the seed and seed heads are also commonly known by their annoying habit of sticking to shoe laces, pants cuffs, etc. with Velcro-like spines.

d. *Canada thistle (Cirsium arvense)*

This is an aggressive perennial, which spreads by seeds blowing in the wind, or plowing the seeds and rhizomes into the soil, or the rhizomes of established plants growing horizontal and increasing the number of stems. Individual plants easily grow into a dense, persistent thistle patches. It can grow from 1.5 to 5 feet tall, but typically are 2 to 3 feet tall. This is a unisexual plant, with male flowers producing pollen and the female flowers producing seeds on separate plants. It has flower colors from rose to purple and even white, and blooms from June through August. The leaves have woolly hairs on their under side. It was introduced from Eurasia into Canada in the hay for the horses in Burgoine's army. It invades fields, pastures, and waste lands. This strong, aggressive perennial is difficult to control.

e. *Cheatgrass, downy brome (Bromus tectorum)*

Cheatgrass is a vigorous, short lived, and widely distributed annual grass that has replaced many native species. Cheatgrass does provide forage. Following repeated fire events it may become dominate, replacing most native species. Cheatgrass was introduced from the Mediterranean region. Cheatgrass has a finely divided, fibrous root system with an average of 7 main roots that grow rapidly, spreading laterally and vertically. It also grows rapidly and the amount of growth varies from year to year depending upon the amount of moisture that it receives, perennial plant competition, and soil fertility. It is a widely adapted plant and can be a nuisance. Heavy cheatgrass stands can make the re-establishment of native vegetation very difficult.

f. *Dalmatian toadflax (Linaria dalmatica)*

Dalmatian toadflax usually first appears on disturbed soil along roadways and can crowd out desirable native range species. Dalmatian toadflax is a 2 to 4 foot tall perennial with bright yellow flowers. It was introduced from southeastern Europe, and is not current widely distributed in Malheur County.

g. *Diffuse knapweed (Centaurea diffusa)*

Diffuse knapweed was introduced from Eurasia; it is native to southeastern Europe and western Asia. Diffuse knapweed is a problem for dry Pacific northwestern areas, being very competitive with native range plants. It is very aggressive, and invades roadsides, waste lands, grass lands, and dry range lands. It spreads rapidly and stands in dense groups. The flowers are white and occasionally purple. It flowers July through September. The flower heads are numerous and narrow. This is a bushy annual, biennial, or short lived perennial. It can grow 1-2 feet tall. When the stems mature and become brittle they break off, then become a tumble weed, which then blow

in the wind spreading seeds all over becoming a threat to pastures and rangelands. It is very competitive growing from taproots.

h. Halogeton (*Halogeton glomeratus*)

Halogeton is an annual plant native of Asia that has invaded millions of acres of alkaline soils in the semi arid west. Halogeton is not highly competitive in vigorous range conditions, but thrives in over grazed sites or sites limited by alkaline soils. Halogeton grows horizontally, then the branches curve upwards from just a few inches to 1.5 feet tall. The stems are red, while the leaves are greenish- blue with sharp needle like tips, with small yellow flowers. It can grow 1 to 2 feet tall. It produces two types of seeds; there is a black, shiny one with wings to blow in the wind that can germinate within one year. Then there are brown seeds that can lie dormant for several years. This plant is found in concentrated areas along roadsides, sheep trails, and near where livestock congregate. It is especially lethal to sheep and occasionally lethal to cattle because it contains sodium oxalate.

i. Houndstongue (*Cynoglossum officinale*)

j. Leafy spurge (*Euphorbia esula*)

Leafy spurge is aggressive and takes over most other vegetation, and is poised to invade large areas from strongholds in Council and Cambridge ID and from the Jordan Creek drainage in the Owyhees. Leafy spurge is a 3 foot tall perennial that spreads by rootstocks as well as by seed. Because of its deep roots and large seed count it is hard to control. The flowers are yellowish- green; the leaves vary in size and shape. Leafy spurge can be distinguished by the white sap that oozes out when cut or broken. Leafy spurge starts blooming in mid June. This plant is toxic to cattle and horses. It is from European or Eurasia. It can be found in abandoned cropland, pastures, rangeland, woodland, roadsides and waste areas.

k. Mediterranean sage (*Salvia aethiopsis*)

l. Medusahead rye (*Taeniatherum caput-medusae*)

Medusahead rye has invaded and completely dominated large tracts of land in the mid-Snake River region. Certain areas of heavy soils in the lower and mid Owyhee and subbasins are thoroughly infested.

m. Moth mullein (*Verbascum blattaria*)

Moth mullein has started to appear as an invading species in rangeland outside of Ontario, Nyssa, and New Plymouth. It has the potential to become a serious range-land weed, displacing native species.

n. Musk thistle (*Carduus nutans*)

Musk thistle invades fields, and pastures, especially under conditions of heavy grazing; also forest lands, roadsides, waste lands, ditch banks, stream banks, and grain fields. Musk thistle is a vigorous biennial or sometimes annual, growing up to 6 feet or more. Musk thistle was introduced to North America in the early part of the twentieth century and is native to southern Europe and western Asia. It is spreading rapidly

through the mid Snake River region. The leaves are dark green, and light green on the midribs, leaves extend onto the stem giving it winged appearance. The purple flower heads range from 1½ to 4 inch in diameter, and are slightly bent over. The flowers can vary from pink to violet and purple. It begins flowering in early June in Malheur County. This weed will only reproduce through seeds, so one way to control it is to cut young plants off just below ground level before seed set.

o. *Perennial pepperweed (Lepidium latifolium)*

Perennial pepperweed is a risk to the degradation of riparian areas. Perennial pepperweed is native to southern Europe and Western Asia and was found in North America in the 1940's. It can grow in a large variety of habitats but grows best in along streams and other wet areas such as ditches, roadsides, and marshes. Perennial pepperweed is a very common weed in the western states, and is difficult to control. Biocontrol agents have not been established, seed production is prolific, selective weed control is difficult, and deep seated rootstocks make the plant strongly perennial. The main way that pepperweed spreads is through root fragmentation. Perennial pepperweed flowers from early summer to fall, and the flowers appear in dense clusters.

p. *Poison hemlock (Cicuta douglasii)*

Poison hemlock is a highly toxic plant and commonly infests riparian areas. Poison hemlock can be mistaken for other useful and poisonous plants such as celery, parsley, sweet anise, water hemlock, and water parsnip. All parts of the plant are toxic including the large white tap root. It is a biennial native of Europe that grows 1 to 7 or more feet tall, and can be found in marshes, wet meadows and pastures, along stream banks and on roadsides. This plant has smooth stems that are swollen at the base, and are hollow with purple stripes or spots. The flowers are white, are in clusters at the top of the stem, and they look like an umbrella. The seeds are tiny and readily shatter when dried and hard.

q. *Puncturevine (Tribulus terrestris)*

r. *Purple loosestrife (Lythrum salicaria)*

Purple loosestrife is a noxious weed because it crowds out native plants and it can eventually destroy marshes and choke waterways. This beautiful noxious weed is native to Europe and was accidentally introduced to North America in the 1800s. It is a perennial wetland herb that grows along streams, farm ponds and other wet areas that have been disturbed. It can grow to 5 feet or more and blooms in June to late August with each flower having 5-7 petals. One plant can produce 300,000 seeds a year, as well as being able to reproduce by offshoots and cuttings.

s. *Rush skeletonweed (Chondrilla juncea)*

Rush skeletonweed has the capability to choke out native range species, decreasing range productivity and diversity. Rush skeletonweed is perennial that grows from 1 to 4 feet tall, has branching stems with dense clusters of flowers on the ends of them. It has a stiff and bare appearance looking like a skeleton, which is where it got its name. It has bright yellow flowers in mid- July, when the flowers start growing the leaves wither. On the bottom of the stem there are thin dense sharp hairs pointing down

ward, and the upper stem is smooth. The plant bleeds white sap if cut, or broken. Rush skeletonweed is native to Eurasia and has invaded millions of acres in California, Idaho, eastern Washington, and Oregon. It is hard to control with herbicides because of the deep taproots, and tilling it under can spread the rootstock. It likes to grow in lighter, well drained soils and completely dominates some sites along the Boise River, choking out native vegetation. Rush skeletonweed does well on road sides, rangelands, grain fields, grasslands, open forest, and pastures.

t. *Russian knapweed (Acrotilon repens)*

Russian knapweed can grow aggressively, eliminating most native plants. Russian knapweed is an aggressive perennial that grows 1 to 3 feet tall, and has deep root systems, spreading rhizomes to form dense populations. This plant is native to Eurasia and was introduced near the end of the 19th century. It reproduces by root stocks and seeds, and its aggressive and deep spreading root system make it very difficult to control. It is bitter and not palatable to livestock. It flowers June through September with pink to purple or white blooms. It tolerates drought and invades hay fields, pastures, roadsides, and rangelands.

u. *Saltcedar, tamarisk (Tamarix ramosissima)*

Tamarisk or saltcedar is a strong perennial shrub to small tree species that is invading riparian areas in the mid Snake River region, and throughout the Lower Owyhee subbasin. Tamarisk has very prolific seed production and can out-compete native riparian trees and shrubs. It has become established along the Owyhee River, Dry Creek, and BLM's Areas of Critical Environmental Concern at Leslie Gulch, the Honeycombs, and in other associated wash bottoms.

Tamarisk was introduced to the US from Eurasia. The leaves are small and scale-like on slender stems. Stems are smooth and brown to reddish brown in color. Flowers are very small and are pink to white and have five petals. Tamarisk can develop into nearly pure stands, restricting biodiversity. Tamarisk is known to use prolific amounts of water and dry out riparian areas.

v. *Scotch thistle – Onopordum acanthium*

Scotch thistle is native to Europe and eastern Asia and is now naturalized in North America. Current Scotch thistle infestations in Oregon are concentrated in the eastern counties, with considerable infestation in Malheur County. It is most troublesome near the Snake River drainage. Scotch thistle can be found along roadsides, waste land areas, and lower range slopes, where there is more moisture than in surrounding range sites. Scotch thistle also invades grasslands and sagebrush communities, especially where there is disturbed soil. Scotch thistle is a biennial herb, the flowers are a pale purple to violet and sometimes reddish color. Scotch thistle flowers in mid- June through July. Leaves can occasionally get up to 2 feet long, and the plant can be from 2-10 feet tall. The leaves have tiny fine dense hairs giving it a grayish appearance.

w. Spotted knapweed (*Centaurea maculosa*)

Spotted knapweed was introduced from Eurasia as a contaminant of alfalfa and clover seed, and is native to Europe and Western Asia. It has seriously degraded much of the rangeland in western Montana. This is a biennial or short lived perennial. It can grow from 1 to 3 feet in height. Spotted knapweed plants can produce up to 1,000 seeds. It has light purple to pink flowers and blooms between June and October. It has stiff branches and resembles diffuse knapweed, although it has to have a higher level of moisture and does not spread as fast. It can be found along roadsides, waste lands and range lands. Spotted knapweed likes to establish in disturbed soil, is competitive for soil moisture and nutrients. There is a special fruit fly that has been introduced as a partial biological control, laying its eggs on the flower heads. Larvae eat the developing seeds leaving only 5-20 seeds instead of 30.

x. Squarrose knapweed (*Centaurea virgata*)**y. White top, Hoary cress (*Cardaria draba*)**

Hoary cress or whitetop (*Cardaria draba*) is native to the Balkans, Georgia, Armenia, Azerbaijan, Turkey, Israel, Syria, Iraq and Iran. Whitetop was introduced to the U.S. by early European explorers in North America. It has since spread throughout almost the entire country. Whitetop has spread and is spreading into many of the rangelands of Malheur and Baker Counties of Oregon. Whitetop spreads by seed and vegetatively under the soil and is very competitive with native vegetation on disturbed or alkaline sites. It has also been found that one time tillings of the soil will spread this noxious weed, and that it takes 3 consecutive years of tiling to destroy the root system. Whitetop emerges in early spring, then blooms and sets seed by mid-summer.

z. Yellow starthistle (*Centaurea solstitialis*)

Yellow starthistle is native to the Mediterranean region of Europe, but was introduced from Europe. It is wide spread in California and occurs in parts of Idaho and Washington. Many large rangeland sites have become dominated by yellow starthistle. It will grow in any type of soil and intermountain environment. It starts as a rosette and becomes a bushy annual or sometimes a biennial. Yellow starthistle can grow from 1 to 3 feet tall, and leaves and stems become covered in white cotton wool. Yellow starthistle has brilliant yellow flowers between July and September. It has rigid branches and the upper leaves are sharply pointed. The flower head can get up to 1 inch wide and is covered in needle sharp thorns. Yellow starthistle can be deadly to horses, where they contract "chewings disease", equine spongiform encephalopathy, if they are forced to eat it.