HIGHLAND PARK 3 ASSOCIATION, INC.

7075 Campus Drive, Suite 200, Colorado Springs, CO. 80920
(719) 598-3198 / fax 598-2337
Email: info@HP3A.org

July 29, 2019

Greetings!

Hard to believe it is August already. Children are getting ready to head back to school, and the end of summer is in sight. We thought this might be a good time for an update on your Highland Park community.

We currently have four homes under construction, and several in the design stage. Please be careful when you are out in the subdivision, as past experience has shown that some people drive a little too quickly. We often ask builders to remind their subcontractors to take it slow through the residential area. Quite a few people walk on Lochwinnoch Lane, and we don't want to have accidents.

We have generally been getting home plans approved within two weeks, but it depends on how busy we are and where the architectural committee members are. As a reminder, we need a paper set of plans delivered to the office (address above), and we need a set of electronic plans. It will speed things up if you include color chips with your application, rather than just a name or color number which requires the architectural committee to go look them up and find out what color they are. The house should be staked out on the lot for the site visit. As always, if you have questions about a particular location, contact us and we can meet you out there for a preliminary reading on the proposed site. Also, I will be unavailable from September 6-23, so if you are working on plans and want to get them approved before I go, plan accordingly.

Lot sales have been good this year, With 20 of 39 sold, optioned or under contract. We think there is a reasonable expectation that we will sell out in 2020. If you have friends you would like for neighbors, encourage them to contact us. Based on the development plans being proposed on the east side of Vollmer, we continue to believe these will be the last of the close-in large estate sized homesites in the area.

We recently were asked when the property owners would assume responsibility for the homeowners' association; the answer is, we are not sure. We feel it would be good to actually have some residents in the neighborhood before turning it over, as having resident owners keeping an eye on things is very helpful (also, the current owners are not beating down our door right now, asking to take over operation of the HOA ☺). We are currently planning on holding the organizational meeting of the Association in the fall of 2020.

When you are ready for a mailbox key, you must go to the U.S. Post Office in Briargate located at 8585 Criterion Drive. We were told that you should ask for Nancy, who we are told "has the keys in the back" for our neighborhood box unit. Make sure that you have title information and I.D.

I was out mowing this morning and while it is nice to see green fields this late into the summer, the rains have brought us a bumper crop of grass and weeds. El Paso County sent us a notice last week regarding knapweed and thistles in the community, with requirements to deal with them. A few lots that we have already sold or have under contract (120, 121, 126, 133, 139, 143,144, 156, 157 and 158) were on the Little London list (presumably, the County has updated its ownership records as to other property owners, and they probably got their own letter). If your lot is one that has been identified as having weeds, you will want to take action. A copy of the County's letter and weed control information is included herewith. Even if yours is not on the list, you may want to check it for weeds.

Little London is in the process of mowing the lots it controls. Little London is also planning on mowing lots that are under contract, but if we don't get to yours before closing, you may feel free to do it yourself or hire it done. We recently checked around to see who is doing field mowing and following are the names of a few folks that we found so that you can arrange with them to mow your lawn, if that is how you choose to deal with any weeds on your property.

One last comment before we end. Soon we will have people drilling wells in the community. Remember to tell your builders to have a flow meter installed on your well. Once people start using water we will have to start the meter reading process, which happens three times a year (October 31, December 1 and February 28/29). We will be following up with you prior to those dates to determine who does and does not have a well in use, but it would sure help if you would notify us when you have completed a well so that we can get copies of the well paperwork. Thank you.

We are sending this first newsletter electronically, and hope that it is received well in this format. We thought perhaps we could save some Association money on postage. We are also sending the newsletter to those who are under contract, to help engage them in the community. That's it for now. Have a great rest of your year!

Sincerely
Highland Park 3 Association, Inc.

By Douglas H. Barber-President

EL PASO COUNTY
COLORADO

COMMUNITY SERVICES DEPARTMENT

PARK OPERATIONS ~ COMMUNITY OUTREACH
ENVIRONMENTAL ~ VETERANS ~ RECREATION/CULTURAL SERVICES

July 23, 2019

Little London LLC
7075 Campus Dr. Suite 200
Colorado Springs, CO 80920

Dear Little London LLC,

The Colorado Department of Agriculture has targeted certain noxious weeds for control and/or eradication: those that negatively affect the environmentally sound management of native or agricultural ecosystems by being aggressively invasive, poisonous to animals, or carriers of detrimental insects, diseases, or parasites. The Colorado Noxious Weed Act (Colorado Revised Statute 35-5.5-101, et seq.) and the El Paso County Weed Management Plan (Resolution No. 14-97 dated March 18, 2014) classifies noxious weed species into three categories (Lists A, B, and C) which signify the severity of the weed's impact and how aggressively it must be controlled and/or eradicated. CRS 35-5.5-108.5(5)(a) requires the local governing body to notify the affected landowner by certified mail.

Scotch thistle, Canada thistle, and Diffuse knapweed, list B species, have been seen from a public right-of-way on multiple properties (see attached spreadsheet). As the property owner, you are required to eradicate all Scotch thistle plants and contain and suppress all Canada thistle and Diffuse knapweed plants on your properties using any of the appropriate management techniques recognized by the Colorado Department of Agriculture, such as pulling by hand, digging, or using approved herbicides. Please see the enclosed fact sheets for more information on the identification and control of noxious weeds.

Please fill out and return the enclosed postcard within 10 days of receipt of this letter. Thank you for your cooperation in controlling the invasive plants on your property. If you have any questions or concerns, or need assistance in identifying or creating a management plan for noxious weeds please call the El Paso County Environmental Division at (719) 520-7839.

Sincerely,

Kathy Andrew, Manager
El Paso County Environmental Division

Property Address Lot	Parcel No.	Weed	List	Action	Weed	List	Action	Weed	List	Action
7767 Rannoch Moor Way Colorado Springs, CO 80908 Shulski/Dyo 133	5229406001	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7625 Rannoch Moor Way Colorado Springs, CO 80908 u/c 134	5229406002	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7626 Rannoch Moor Way Colorado Springs, CO 80908 138	5229406006	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
~~7767 Rannoch Moor Way Colorado Springs, CO 80908~~	~~5229406001~~	Scotch thistle	B	Eradicate	~~Diffuse knapweed~~	B	~~Contain and suppress~~	DUPLICATE		
7730 Rannoch Moor Way Colorado Springs, CO 80908 148	5229402004	Diffuse knapweed	B	Contain and suppress	Diffuse knapweed					
9901 Rannoch Moor Way Colorado Springs, CO 80908 147	5229402003	Diffuse knapweed	B	Contain and suppress						
7678 Rannoch Moor Way Colorado Springs, CO 80908 Torres 139	5229406007	Diffuse knapweed	B	Scotch thistle	Diffuse knapweed	B	Contain and suppress			
9937 Lochwinnoch Ln. Colorado Springs, CO 80923 146	5229402002	Diffuse knapweed	B	Contain and suppress						
7558 Culloden Ct. Colorado Springs, CO 80908 Grover 143	5229406011	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
9973 Lochwinnoch Ln. Colorado Springs, CO 80908 u/c 145	5229402005	Scotch thistle	B	Eradicate	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress

Property Address Lot	Parcel No.	Weed	List	Action	Weed	List	Action	Weed	List	Action
7711 Bannockburn Trl. Colorado Springs, CO 80908 ulc 120	5229405001	Scotch thistle	B	Eradicate	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress
7751 Bannockburn Trl. Colorado Springs, CO 80908 ulc 121	5228008001	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress			
7791 Bannockburn Trl. Colorado Springs, CO 80908 122	5228008002	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7831 Bannockburn Trl. Colorado Springs, CO 80908 123	5228008003	Scotch thistle	B	Eradicate	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress
7871 Bannockburn Trl. Colorado Springs, CO 80908 124	5228008004	Diffuse knapweed	B	Contain and suppress						
7872 Bannockburn Trl. Colorado Springs, CO 80908 125	5228008005	Diffuse knapweed	B	Contain and suppress						
7832 Bannockburn Trl. Colorado Springs, CO 80908 Farrow/Russell 126	5228008006	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress			
7792 Bannockburn Trl. Colorado Springs, CO 80908 127	5228008007	Scotch thistle	B	Eradicate	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress
7752 Bannockburn Trl. Colorado Springs, CO 80908 128	5228008008	Scotch thistle	B	Eradicate	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress
9756 Lochwinnoch Ln. Colorado Springs, CO 80908 131	5229401013	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7782 Rannoch Moor Way Colorado Springs, CO 80908 149	5228005023	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7834 Rannoch Moor Way Colorado Springs, CO 80908 150	5228005024	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7886 Rannoch Moor Way Colorado Springs, CO 80908 151	5528005025	Scotch thistle	B	Eradicate	Canada thistle	B	Contain and suppress	Diffuse knapweed	B	Contain and suppress
7937 Rannoch Moor Way Colorado Springs, CO 80908 ulc 158	5228005028	Diffuse knapweed	B	Contain and suppress						
7885 Rannoch Moor Way Colorado Springs, CO 80908 Albano 159	5228005029	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7833 Rannoch Moor Way Colorado Springs, CO 80908 Grot 156	5228005030	Diffuse knapweed	B	Contain and suppress						
7781 Rannoch Moor Way Colorado Springs, CO 80908 155	5228005031	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			
7729 Rannoch Moor Way Colorado Springs, CO 80908 154	5229403001	Scotch thistle	B	Eradicate	Diffuse knapweed	B	Contain and suppress			

Diffuse knapweed

Colorado Department of Agriculture

305 Interlocken Pkwy
Broomfield, CO 80021

(303) 869-9030
weeds@state.co.us

Diffuse knapweed Identification and Management

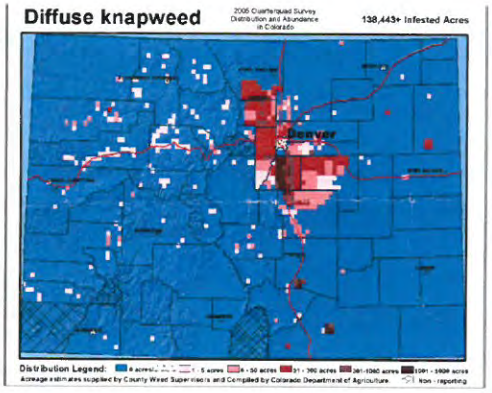
Identification and Impacts

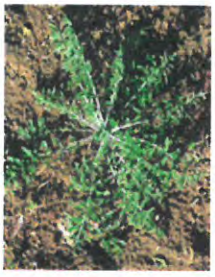
Diffuse knapweed (*Centaurea diffusa*) is a non-native biennial forb that reproduces solely by seed. A biennial is a plant that completes its lifecycle within two years. During the first year of growth, diffuse knapweed appears as a rosette in spring or fall. During the second year in mid to late spring – the stem bolts, flowers, sets seed, and the plant dies. Once the plant dries up, it breaks off at ground level and becomes a tumbleweed which disperses the still viable seeds over long distances. A prolific seed producer, diffuse knapweed can produce up to 18,000 seeds per plant. Therefore, the key to managing this plant is to prevent seed production. Diffuse knapweed can grow 1 to 3 feet tall, and is diffusely branched above ground. This gives the plant a ball-shaped appearance and tumble-weed mobility when broken off. Leaves are small, and are reduced in size near the flowering heads. Flowers are mostly white, sometimes purple, urn-shaped, and are located on each branch tip. Bracts that enclose the flowerheads are divided like the teeth of a comb, and are tipped with a distinct slender spine. Upon drying, the bracts become rough, rendering them injurious to the touch. Flowers bloom July through August. Seed set usually occurs by mid-August.

Diffuse knapweed tends to invade disturbed, overgrazed areas. Other habitats may also include rangeland, roadsides, riparian areas, and trails. It is a tough competitor on dry sites and rapidly invades and dominates disturbed areas. Once established, diffuse knapweed outcompetes and reduces the quantity of desirable native species such as perennial grasses. As a result, biodiversity and land values are reduced, and soil erosion is increased.

The key to effective control of Diffuse knapweed is to prevent the plant from flowering and going to seed. An integrated weed management approach dealing with Diffuse knapweed is highly recommended. There are many options of mechanical, chemical, and biological controls, available. Details on the back of this sheet can help to create a management plan compatible with your site ecology.

Diffuse knapweed is designated as a "List B" species on the Colorado Noxious Weed Act. It is required to be either eradicated, contained, or suppressed depending on the local infestations. For more information, visit www.colorado.gov/ag/csd and click on the Noxious Weed Program link or call the State Weed Coordinator at the Colorado Department of Agriculture, Conservation Services Division at 303-239-4100.





Key ID Points

1. Floral bracts have yellow spines with teeth appearing as a comb and a distrinct terminal spinte.
2. Flowers are white or lavender.
3. Seedlings have finely divided leaves

Updated on: 07/2015

Centaurea diffusa

Management Recomendations

Diffuse knapweed

CULTURAL
Establishment of selected grasses can be an effective cultural control of diffuse knapweed. Contact your local Natural Resources Conservation Service for seed mix recommendations. Maintain healthy pastures and prevent bare spots caused by overgrazing. Bareground is prime habitat for weed invasions.

BIOLOGICAL
The seedhead weevil (*Larinus minutus*) and the root weevil fly (*Cyphocleonus achates*) provide fair to good control when used in combination with each other. Expect to wait at least 3 to 5 years for the insects to establish and achieve optimum results. This is an option for large infestations. To obtain the insects, contact the Colorado Department of Agriculture, 970-464-7916.

MECHANICAL
Any mechanical or physical method that severs the root below the soil surface will kill diffuse knapweed. Mowing or chopping is most effective when diffuse knapweed plants are at full-bloom. Be sure to properly dispose of the flowering cut plants, since seeds can mature and become viable after the plant has been cut down.

Integrated Weed Management:

Diffuse knapweed is best controlled in the rosette stage. It is imperative to prevent seed production. Do not allow diffuse knapweed flowers to appear. Management must be persistent in order to deplete the seed bank in the soil.

HERBICIDES : The following are recommendations for herbicides that can be applied to range and pasturelands. Always read, understand, and follow the label directions. Rates are approximate and based on equipment with an output of 30 gal/acre. Please read label for exact rates. **The herbicide label is the LAW!**

Herbicide	Rate	Application Timing
Aminocyclopyrachlor + chlorsulfuron (Perspective)*	4.75-8 oz. product/acre + 0.25% non-ionic surfactant	Pre-emergence or from seedling to mid-rosette stage. IMPORTANT: Applications greater than 5.5 oz. product/acre exceeds the threshold for selectivity. DO NOT treat in the root zone of desirable trees and shrubs. Not for use on grazed or feed forage.
Aminopyralid* (Milestone)	5-7 oz./acre + 0.25% non-ionic surfactant	Spring at rosette to early bolt stage and/or in the fall to rosettes. Add 1 qt./acre 2,4-D or 3 oz. Perspective when treating in the bolting to flowering growth stages.
Clopyralid (Transline)	0.67-1.33 pints/acre + 0.25% non-ionic surfactant	Apply to spring/fall rosettes before flowering stalk lengthens. Add 1 qt./acre 2,4-D when treating in the bolting to flowering growth stages.
Note: *Not permitted for use in the San Luis Valley.		
Additional herbicide recommendations for this and other species can be found at: **goo.gl/TvWnv9**		

Colorado State University

CDA CO

http://www.colorado.gov/ag/csd

Canada Thistle Identification and Management

List B

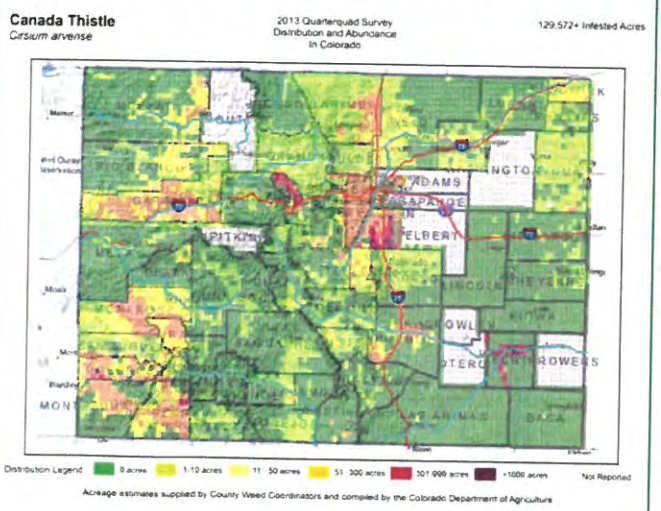
Canada thistle (*Cirsium arvense*) is a non-native, deep-rooted perennial that spreads by seeds and aggressive creeping, horizontal roots called rhizomes. Canada thistle can grow 2 to 4 feet in height. The leaves are oblong, spiny, bright green, and slightly hairy on the undersurface. Unlike other noxious biennial thistles which have a solitary flower at the end of each stem, Canada thistle flowers occur in small clusters of 1 to 5 flowers. They are about 1 cm in diameter, tubular shaped, and vary from white to purple in color.

Canada thistle emerges from its root system from late April through May. It flowers in late spring and throughout the summer. It produces about 1,000 to 1,500 seeds per plant that can be wind dispersed. Seeds survive in the soil for up to 20 years. Additionally, Canada thistle reproduces vegetatively through its root system, and quickly form dense stands. Each fragmented piece of root, 0.25 inch or larger, is capable of forming new plants. The key to controlling Canada thistle is to eliminate seed production and to reduce the plant's nutrient reserves in its root system through persistent, long-term management.

Canada thistle is one of the most troublesome noxious weeds in the U.S. It can infest diverse land types, ranging from roadsides, ditch banks, riparian zones, meadows, pastures, irrigated cropland, to the most productive dryland cropland. Large infestations significantly reduce crop and cattle forage production and native plant species. It is a host plant to several agricultural pests and diseases. Canada thistle prefers moist soils, but it can be found in a variety of soil types. It has been found at elevations up to 12,000 feet.

Effective Canada thistle control requires a combination of methods. Prevention is the most important strategy. Maintain healthy pastures and rangelands, and continually monitor your property for new infestations. Established plants need to be continually stressed. Management options become limited once plants begin to produce seeds. Details on the back of this sheet can help to create a management plan compatible with your site ecology.

2013 Quarter Quad Survey



Canada thistle is designated as a "List B" species as described in the Colorado Noxious Weed Act. It is required to be either eliminated, contained, or suppressed depending on the local infestations. For more information visit www.colorado.gov/ag/weeds and click on the Noxious Weed Program link or call the State Weed Coordinator at the Colorado Department of Agriculture, Conservation Services Division, (303) 869-9030.

Key ID Points

1. Cluster of 1-5 white to purple flowers on a stem.
2. Floral bracts are spineless.
3. Small flowers that are 1 cm in diameter.
4. Perennial, rhizomatous plant with spiny, oblong, green leaves.

Canada thistle

Cirsium arvense

List B

Integrated Weed Management Recommendations

Canada thistle

Cirsium arvense

Integrated weed management is imperative for effective Canada thistle control. This weed needs to be continually stressed, forcing it to exhaust root nutrient stores, and eventually die. Mowing or grazing can be followed up with herbicide application. Avoid hand-pulling and tilling which can stimulate the growth of new plants.

CULTURAL
Prevention is the best control strategy. Maintain healthy pastures , riparian areas, and rangelands. Prevent bare ground caused by overgrazing, and continually monitor your property for new infestations. Establishment of select grasses can be an effective control.

BIOLOGICAL
Cattle, goats, and sheep will graze on Canada thistle when plants are young and succulent in the spring. Follow up grazing with a fall herbicide application. Insects are available, and provide limited control. Currently, collection and distribution methods for Canada thistle rust (*Puccinia punctiformis*) are being refined. For more information on Canada thistle biocontrol, contact the Colorado Department of Agriculture - Palisade Insectary at (970) 464-7916.

MECHANICAL
Due to Canada thistle's extensive root system, hand-pulling and tilling create root fragments and stimulate the growth of new plants. Mowing can be effective if done every 10 to 21 days throughout the growing season. Combining mowing with herbicides will further enhance Canada thistle control.

CHEMICAL
The table below includes recommendations for herbicides that can be applied to rangeland and some pastures. Treatments may be necessary for an additional 1 to 3 years because of root nutrient stores. Always read, understand, and follow the label directions.

Herbicide	Rate	Application Timing
Aminopyralid* (Milestone)	5-7 oz. product/acre + 0.25% v/v non-ionic surfactant OR 1 teaspoon product/gal water + 0.32 oz./gal water	Apply in spring at the pre-bud growth stage until flowering and/or to fall regrowth. Can also add chlorsulfuron (Telar) at 1 oz./acre to the mix.
Clopyralid + Triclopyr (Prescott; Redeem; others)	3 pints product/acre + 0.25% v/v non-ionic surfactant OR 1.25 oz. product/gal water + 0.32 oz./gal water	Apply until flowering and/or fall regrowth.
Aminocyclopyrachlor + chlorsulfuron (Perspective)*	5.5 oz. product/acre + 0.25% v/v non-ionic surfactant	Apply to spring rosette to flower bud growth stage; or fall. IMPORTANT: Applications greater than 5.5 oz. product/acre exceeds the threshold for selectivity. DO NOT treat in the root zone of desirable trees and shrubs. Not for use on grazed or feed forage.
Note: *Product not permitted for use in the San Luis Valley.		
Additional herbicide recommendations for this and other species can be found at: **goo.gl/TvWnv9**		

Colorado Department of Agriculture - Conservation Services
305 Interlocken Parkway
Broomfield, CO 80021
(303) 869-9030
www.colorado.gov/ag/weeds

Updated:
07/2015

Scotch Thistle Identification and Management

List B

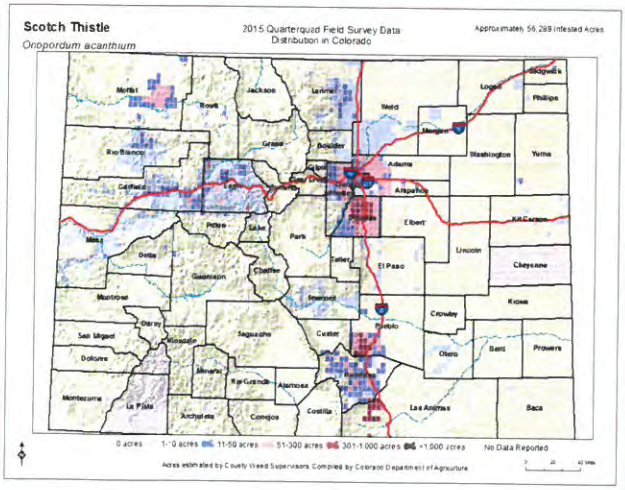
Scotch thistle includes two species, *Onopordum acanthium* L. and *O. tauricum* Willd. Both are non-native biennial forbs. During the first year of growth, both species appear as a rosette in spring or fall. During the second year in mid to late spring the stems bolt, the plants flower, set seed, and the plants die. Both Scotch thistle species can grow up to 12 feet tall and basal rosettes can be up to 2 feet in diameter. Stems are numerous and branched. Characteristically, the entire length of stems from both species have broad wings with spiny tips. *O. acanthium* leaves have an overall gray color from dense woolly hairs. *O. tauricum* leaves are glandular and not as hairy as *O. acanthium*. For both, leaves are spiny. Both species have a distinct mid-rib. Flower heads are terminal, violet to reddish in color, 1 to 3 inches in diameter, and arranged in a raceme. One plant can produce up to 100 flower heads. The spine-tipped bracts curve away from the flowering head. The flower receptacle is fleshy and has pits to hold seeds. The plants flower from mid-June to September. Scotch thistle seeds have the ability to mature in flower buds and heads that have been removed from the stalk. Both species can produce up to 14,000 seeds per plant. Seeds remain viable for up to 30 years but germinate readily with moisture in spring and fall.

Scotch thistle invades rangeland, overgrazed pastures, roadsides, and irrigation ditches. Both species prefer moist soil, such as areas adjacent to creeks and rivers. Roadsides appear to be especially vulnerable to invasion likely due to the water runoff from the shoulders. Maintaining healthy pastures and native plants, minimizing soil disturbance, changing land use practices to prevent overuse, and using seed-free equipment are critical measures to preventing infestations. As with most biennials, once established, limiting seed production is critical to effective control. Due to the robust, spiny nature of Scotch thistle, this plant can act as a living barbed wire fence, making areas impassible for wildlife, livestock, and people and unpalatable to cattle.

To control seed production, plants with buds or flowers should be collected, bagged and immediately disposed of or destroyed. Chemical control is most effective when plants are in rosette stage, spring or early fall. Mechanical controls can be used to eliminate small patches or plants in a later growth stage.

Scotch thistle is designated as a "List B" species in the Colorado Noxious Weed Act. It is required to be eradicated; some populations may be contained or suppressed depending on state regulations. For state regulations described for each county, refer to the most recent Rule, or visit www.colorado.gov/ag/coweedcontacts for details.

2015 Quarter Quad Survey




© Leslie Mehrhoff, University of CT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Key ID Points

1. Pitted fleshy flower receptacle.
2. Prominent mid-rib.
3. Wide lobed leaves with distinct mid-rib.
4. Wide spiny wings extend the length of the stem.

Scotch thistle

Onopordum acanthium L. and *O. tauricum* Willd.

List B

Scotch thistle

Onopordum acanthium L. and *O. tauricum* Willd.

Integrated Weed Management Recommendations

Effective integrated management means using a variety of eradication methods along with restoration, prevention of seed production and dispersal, and monitoring. Maintain robust healthy native landscapes. Restore degraded sites. Avoid soil disturbance. As with most biennials, prevent seed production in the first and second year of growth. Prevent seed from dispersing, such as on contaminated equipment. Rest sites until they are effectively restored. Change land use practices. Use methods appropriate for the site.

CULTURAL CONTROL METHODS

Effectiveness begins with maintaining or restoring a competitive native forb and forb assemblage. Continue restoration efforts until native plants are robust and abundant. Use locally adapted native seeds whenever possible to improve competitiveness. Include cool season and warm season, as well as perennial and annual grasses in revegetation efforts. Soil may need to be restored by adding soil amendments, soil microbes, mycorrhizal fungi and nitrogen fixing plants such as legumes. Manage land uses so they do not create bare mineral soil or compact soil. Annual crop cultivation appears to be an effective control measure.

BIOLOGICAL CONTROL METHODS

Domestic livestock are likely to avoid this plant due the large number of spines all over the plant. Goats and sheep may eat flower heads if plants are small. Since most livestock and herbivores avoid the leaves and stems, Scotch thistle can become an "increaser" in over-grazed systems. Properly managed grazing systems can increase desireable plant vigor and indirectly reduce Scotch thistle. There are no known biological control agents effective against scotch thistle or authorized in Colorado. For more information about biological control agents, visit the Colorado Department of Agriculture's Palisade Insectary website at www.colorado.gov/ag/biocontrol.

MECHANICAL CONTROL METHODS

Methods, such as tilling, hoeing and digging, are best for infestations smaller than 0.5 acres; weigh this against other plants present, ecology and site condition. Sever roots below the soil surface during the first year before the plant stores energy and in the second year before seed production. Mowing, chopping and deadheading stimulates more flower production; these methods require consecutive years of season-long treatments. Flower heads must be collected, bagged, and disposed of or destroyed; seeds will mature and germinate if left on the ground. Fire gives Scotch thistle a competitive advantage. Large fleshy stems and leaves would not be consumed in a low severity fire and seeds would remain unaffected. High severity fires would likely damage native plants, which favors Scotch thistle if seeds are not killed and this is not recommended.

CHEMICAL

NOTE: The following are recommendations for herbicides that can be applied to pastures and rangeland. Rates are approximate and based on equipment with an output of 30 gal/acre. Follow the label for exact rates. Always read, understand, and follow the label directions. The herbicide label is the LAW!

HERBICIDE	RATE	APPLICATION TIMING
Aminopyralid* (Milestone)	7 oz. product/acre + 0.25-0.5% v/v non-ionic surfactant	Apply in spring rosette to early bolting growth stages or in fall to rosettes. *Product not permitted for use in the San Luis Valley.
Chlorsulfuron** (Telar)	1-2.6 oz. product/acre (0.75 oz. active ingredient/acre)+ 0.25% v/v non-ionic surfactant	Spring from bolting to flower bud stages. **This herbicide has residual soil activity that will affect all broadleaf seedlings germinating after application has occurred.
Metsulfuron + Chlorsulfuron (Cimarron X-tra)	2 oz. product/acre + 0.25-0.5% v/v non-ionic surfactant	Apply during rosette to flower bud stages.
Clopyralid (Transline)	0.67-1.33 pints product/acre + 0.25% v/v non-ionic surfactant	Apply to rosettes in spring or fall.
Aminocyclopyrachlor + chlorsulfuron (Perspective)* *Product not permitted for use in the San Luis Valley.	4.75-8 oz. product/acre + 0.25% v/v non-ionic surfactant	Apply from the seedling to the bolting stage. IMPORTANT: Applications greater than 5.5 oz. product/acre exceeds the threshold for selectivity. DO NOT treat in the root zone of desirable trees and shrubs. Not for use on grazed or feed forage.

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