Hello from the Humboldt Watershed CWMA! The HWCWMA was developed to address the invasive weed problem and subsequent decline in water quality within the entire 16,843 square mile watershed, which covers most of Northern Nevada. The primary function of HWCWMA has been to provide land managers, owners and weed control groups assistance in the areas of funding, agency and weed group coordination and cooperation.

This month we would like to re-introduce you to one of Nevada’s state listed noxious weeds, scotch thistle
*(Onopordum acanthium).* Although we have written an article about scotch thistle in the past, this highly invasive plant seems to have really taken over the landscape during the last three years and we’d like to emphasize the importance of removing this thistle from your property before it establishes and out-competes almost everything. Scotch thistle is present in all of Nevada’s 17 counties. It drastically reduces productive rangeland by out competing desirable forage species. It can be so thick that it becomes an impenetrable, thorny barrier for ranchers, cattle, wildlife and recreationists.

Scotch thistle is a native of Europe and Asia. It was introduced into the United States in the late 19th Century as an ornamental; it has since escaped cultivation. Scotch thistle is also known by two other common names: cotton thistle and woolly thistle. This is because the leaves and upper stems are covered with thick cottony hairs. Scotch thistle is an invasive weed that infests disturbed and neglected lands. It prefers sites near ditch banks and rivers, but also infests pastureland, crops, rangeland and roadsides. Its leaves are armed with sharp spines, making access to areas infested with scotch thistle difficult.

**Scotch thistle** is a non-native biennial forb that reproduces solely by seed. A prolific seed producer, each plant can produce up to 14,000 seeds per plant. During its first year it develops a large spiny rosette, eliminating potential competing plants around its taproot by shading. In the second year Scotch thistle may grow 5 feet in diameter with branched flower stems 8 feet tall. The leaves are lobed with spiny margins that extend down the stems as spiny wings. The entire plant appears grayish-green because of a covering of fine white hairs. Purple flower heads are 1 to 2 inches in diameter with stiff spiny bracts. Scotch thistle differs from musk thistle in the upright flower heads and the leafy stems below the flower heads.

**Control and Management**

Because scotch thistle reproduces by seed, it is one of the few invasive weeds that can be controlled by mechanical, chemical and cultural methods. A persistent combination of these methods will yield the best results. Keep in mind that scotch thistle has the ability to germinate nearly year round. This adds to the difficulties associated with control and the timing of herbicide applications. A combination of control methods is recommended.

• Prevention: The best and most cost effective method for weed control is prevention. This stage is often overlooked until costlier methods of control are required. By monitoring your land and destroying single plants or new infestations, great expense can be avoided. Cooperative effort among land managers is recommended to successfully prevent weed infestations among adjacent landowners. If a small infestation is found and eradicated immediately, before seeds are produced, it will reduce the chance of further infestation on your land and your neighbor’s.

 • Mechanical/ Physical Controls: Mechanical and physical control is very effective if completed before scotch thistle goes to seed. Mechanical control is effective because scotch thistle does not reproduce vegetatively. Severing the roots of the rosette or the plant kills it. Small infestations can be pulled by hand. This should be done with caution while wearing heavy gloves, a long-sleeved shirt and pant, and eye protection because scotch thistle has stout spines. Most mechanical methods, such as tilling, are not appropriate for rangeland and waterways. It is very important to keep scotch thistle out of these areas. Mowing makes the stand more uniform, which makes herbicide applications more effective, but mowing does not kill scotch thistle. Mowing before seed dispersal will limit the amount of seed available for germination. However, plants are able to produce seed even after they have been mowed. Consequently, mowing is not recommended unless used with a follow-up herbicide application or tillage.

• Biological/Cultural Controls: Currently, there are no insect biological control agents for scotch thistle in the United States. Sheep and cattle will not graze scotch thistle. Goats will, but only in its early rosette stage. After it has developed a coarse stem and stout spines, goats refuse to eat it. An infestation of scotch thistle may be reduced or eliminated with the planting of competitive grasses. Revegetating an area with competitive grasses following treatment helps prevent the invasion and establishment of new scotch thistle plants. Desirable forage that emerges during the growing season should be managed to increase its competitiveness. Not only does this help reduce the possibility of reinfestation by scotch thistle, the increased forage provides increased protection from soil erosion. As part of a good grazing plan, the establishment of desirable forages is integral to a weed management program. By monitoring for scotch thistle, not overgrazing pastures, and establishing desirable forage, scotch thistle’s threat can be reduced.

 • Chemical Control: Various chemicals control scotch thistle. The growing stages, environmental conditions, stand size, density, location, and the product’s cost are all factors to consider in selecting the correct herbicide for the job. A combination of chemical treatments may be necessary to achieve the desired level of control. Always check with your state or county weed specialist before purchasing and applying herbicides. The label on each product must be read, understood and followed correctly. It’s the law! Applying herbicides to scotch thistle rosettes is very effective. In this stage, applying products that contain clopyralid, dicamba, MCPA, picloram or 2, 4-D will successfully kill scotch thistle. It is effective to spray the rosettes in the spring or fall, but it is more effective in the fall. All live plants that escaped the spring application will be seedlings or rosettes and ready to be sprayed later in summer or fall. Do not let them go to seed.

As always, please notify the HWCWMA if you see Scotch thistle growing within the Humboldt River Watershed. We have an opportunity to stop invasive species from spreading if we act quickly and our [staff](http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/program-information/who-we-are.aspx) can provide the property owner or appropriate public agency with site-specific treatment options for these plants. The HWCWMA also maps and monitors heavily infested sites in the watershed which allows the HWCWMA the ability to provide educational and financial assistance to land owners and groups in their management efforts, ultimately improving all of the qualities of the land and water in our watershed.

The HWCWMA has also developed a website to serve as a clearinghouse for information on invasive weeds in the Humboldt Watershed. Our website (http://www.humboldtweedfree.org) contains fact sheets for state listed noxious weeds in Nevada, Board of Director’s information, funding partner’s links, and many more features including a detailed project proposal packet that you can print, fill out and mail back to us at your convenience. We are looking to expand our project area outside of the Humboldt River and always welcome new funding opportunities.

Additionally, the HWCWMA is working with IFA in Elko on a 50/50 cost share program that will enable stakeholders with smaller projects to apply herbicide treatments at substantially lower costs. With minimal paperwork requirements, watershed land-owners/managers will purchase and apply their needed herbicide; then notify HWCWMA staff to arrange a site visit; we will collect copies of your receipts, gather some site and application method information from you, and map your project. You will then be reimbursed up to $250 towards your treatment costs. Treatment costs can also include your time spent on the project. An announcement of the details will be listed on our website soon.

If you have any questions, please feel free to contact Andi Porreca, HWCWMA Coordinator at (775) 762-2636 or email her at aporreca@humboldtweedfree.org.