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 introduce you to one of Nevada’s state listed noxious weeds, Dyer’s woad
*(Isatis tinctoria).* This striking yellow plant is native to southeast Russia and is sometimes found as a garden ornamental in the western US. Dyer’s woad is a non-palatable, aggressive weed with allelopathic properties (it produces chemicals which inhibit growth in other plants close by.) In Europe, dyer’s woad has been cultivated as a source of blue dye and for medicinal properties since the 13th century. Within the last century it has become a serious problem on rangelands and in cropland of the United States.

This invader is found mostly in disturbed sites, such as range, cropland, dry areas, woodlands, and pasture sites. This a major problem because dyer’s woad overtakes native grass, and most livestock and wildlife don't graze it. Dyer's Woad is spread by seed, which become viable comparatively early during seed production. Fortunately, other than the sheer number of acres infested with this particular weed, it is rather benign compared to some of the other noxious weeds found in Nevada.

Dyer’s woad ranges from 1 to 4 feet tall with a deep taproot. The plant acts as winter annual, biennial, or short-lived perennial. The basal rosette produces stalked, bluish-green leaves covered with a fine hair. Leaves have a white mid-rib on the upper surface of the leaf. The flowers are numerous, yellow and very small. Flowers are clustered on the upper portion of multi-branched stems, which typically occurs in April to early June. Fruit or seed pods are winged, slightly pear shaped and change from light green to a shiny purplish-black color as they mature. The seeds contained in the fruit are cylinder-shaped and brownish-yellow. The seeds usually form in June and July. Dyer’s woad is a prolific seeder and the soil seed reserve is unknown. Managed sites must be monitored for at least 10 years after the last flowering adult plants have been eliminated and treatments need repeated when necessary. The key to effective control of dyer’s woad is prevention and early detection. Eradicating populations of dyer’s woad can be achieved through different control methods. When populations are small, hand-pulling is an effective approach. Herbicide applications can be effective also.

**Control Methods**

CULTURAL; Keeping desirable vegetation healthy and thick will help keep invaders out. Survey your land regularly to detect new invaders and eradicate any new populations quickly.

MECHANICAL: Hand pulling or digging are effective control methods when dealing with dyer’s woad. Hand pulling should occur when soil is moist and be certain to pull all the roots. It is important to bag specimens carefully so as to not scatter seeds if the plant is flowering.

HERBICIDES The following are recommendations for herbicides that can be applied to range and pasturelands. Always read, understand, and follow the label directions for exact rates. The herbicide label is the LAW!

Metsulfuron (Escort - general use) at 0.5 ounces /acre plus 0.25% nonionic surfactant. Apply at the bolt to bud growth stage. (Late winter to early spring).

Chlorsulfuron (Telar - general use) at 1 ounce/acre plus 0.25% nonionic surfactant. Apply at the bolt to bud growth stage. (Late winter to early spring). Please note this herbicide has residual soil activity that will affect all broadleaf seedlings germinating after application has occurred.

As always, please notify the HWCWMA if you see dyer’s woad 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.

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.