

Controlling Yellow Starthistle (*Centaurea solstitialis*) in California Rangelands using the CAL FIRE Vegetation Management Program (VMP)

Scott Oneto, University of California Cooperative Extension

Yellow starthistle (*Centaurea solstitialis*) first invaded rangelands in California sometime before 1869 when a specimen was collected in Oakland. Native to Europe and Asia, it was apparently introduced in association with livestock use during the Mexican and post-mission period. It is believed that it was introduced as a seed contaminant in alfalfa. A fast-growing, aggressive annual plant, yellow starthistle often grows in dense stands, mainly in grasslands. It rapidly crowds out less-aggressive natives. At present it is the most widely distributed weed in California and cover approximately 10 percent of the total surface area of the state. Infestations of yellow starthistle can have devastating effects on both natural and agricultural ecosystems under certain conditions. It is of economic importance where it invades grainfields, orchards and vineyards, pastures, roadsides and wastelands. In pasture lands, starthistle can lower forage yield and quality, interfere with grazing, cause problems in harvesting of forage and crops, and cause "chewing disease" in horses. In natural areas, yellow starthistle reduces wildlife forage and habitat, displaces native grassland plants and decreases native plant and animal diversity.

There are good reasons to suspect that the invasion of yellow starthistle to these rangelands during the past century is due at least in part to dramatic reductions in fire frequency since the early 1800's. Prior to European settlement in the mid-19th century, these fires would have been started by lightning, but probably more often by the indigenous people of the area, who apparently used fire systematically to maintain the open character of the vegetation. Over the past 150 years, the fire frequency in these ecosystems has drastically changed and now fires rarely occur. This has undoubtedly had a profound influence on the invasion of yellow starthistle and other noxious weeds that thrive in grasslands with high levels of thatch including medusahead (*Elymus caput-medusae*).

Research has shown that fire can be extremely effective at controlling yellow starthistle when performed during the early flowering stage prior to seed development. CAL FIRE has a program called the Vegetation Management Program (VMP) that is a cost share program that focuses on the use of prescribed fire for addressing wildland fire fuel hazards and other resource management issues, including controlling noxious weeds. The use of prescribed fire mimics natural processes and restores fire to its historic role in wildland ecosystems. In addition, fire provides significant hazard reduction benefits that enhance public and firefighter safety. Landowners interested in learning more about the VMP process are encouraged to contact their local CAL FIRE department.

To illustrate the use of VMPs for yellow starthistle control, I recently observed a VMP in San Andreas, California. Check out the video for more information. <http://youtu.be/szeuMYtNxdw>