

This WEED REPORT does not constitute a formal recommendation. When using herbicides always read the label, and when in doubt consult your farm advisor or county agent.

This WEED REPORT is an excerpt from the book *Weed Control in Natural Areas in the Western United States* and is available wholesale through the UC Weed Research & Information Center (wric.ucdavis.edu) or retail through the Western Society of Weed Science (wsweedscience.org) or the California Invasive Species Council (cal-ipc.org).

Hemizonia pungens (Hook. & Arn.) Torr. & A. Gray; spikeweed

(= *Centromadia pungens* (Hook. & Arn.) Greene)

Hemizonia fitchii A. Gray ; Fitch's tarweed

(= *Centromadia fitchii* (A. Gray) Greene)

Hemizonia parryi Greene; Parry's tarweed

(= *Centromadia parryi* (Greene) Greene)

Spikeweed, Fitch's and Parry's tarweed

Family: Asteraceae

Range: All three species are most common in grasslands of California, but spikeweed can also be found in Washington, Oregon, Idaho, Nevada and Arizona, and Fitch's tarweed can be found in Oregon.

Habitat: Dry grasslands, seasonal wetlands, waste areas, woodlands, pastures, rangeland, and along roadsides. Often encountered in areas where soil has been disturbed.

Origin: All are native to California and other western states.

Impacts: Spikeweed and the tarweeds can be a problem in range, pasture, and grain fields (primarily poor growth areas). The plants are spiny, can form dense stands and are avoided by livestock. Populations can increase to an undesirable density in grazed pastures and rangeland. In natural areas, these species are not be a problem and may be a desirable component of the ecosystem.

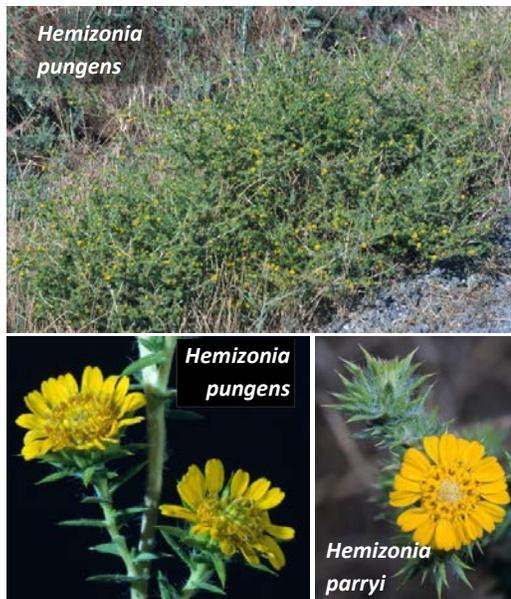
Western states listed as Noxious Weed: Although native to the west, *Hemizonia pungens* is listed as a noxious weed in Oregon and Washington

These three species are very similar in appearance and can be separated by seedhead characteristics. They are late season annuals with rigid, bristly, branching stems. Although they normally grow from 1.5 to 3 ft tall, they are occasionally smaller or larger, ranging from 4 inches to 4 ft tall. The basal leaves are yellowish green, linear-lanceolate, stiff, and 2 to 6 inches long with narrow lobes. The stem leaves are alternate, approximately 0.5 inch long and spine-tipped. Often there are dwarf stems in the axils. The rosettes bolt in late spring and early summer, and plants typically flower from July to September. Plants are covered with sticky, glandular hairs that may tie up foliar-applied herbicides.

The flower heads are yellow and consist of ray and disk flowers. They are located at the tips of short lateral stems. Bracts at the base of the flower head are partially covered by the upper leaves. The bracts are also spine-tipped and have short stiff hairs. These species reproduce by seeds, which fall near the parent plant and are dispersed only short distances by wind. The achenes (seeds) are approximately 2 mm long. There is little evidence to show how long the seeds survive in the soil, but it is expected that they can survive for at least 3 to 5 years.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand-pulling may be adequate for small, recently established infestations, but is not practical for larger infestations. Hand-pulling is best done in spring when the plants are still green and somewhat soft. Gloves still must be worn as more mature plants will be spiny. Mowing just before flowering is probably effective but there is little information available on this topic. Tillage in late spring when the soil has dried is believed to be effective but it is not practical in many or
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	most range or natural areas.
Cultural	<p>Livestock will consume spikeweed/tarweed in winter and early spring when plants are young and succulent. However, when plants become more spiny and tough, livestock will generally avoid these plants and as a result select for these species. There is some evidence that sheep grazing may be effective at reducing populations before plants become too spiny for them to eat.</p> <p>Burning does not appear to be an effective control measure. Fire may reduce the population the year of the burn but there does not appear to be an extended effect into subsequent years, and competing vegetation may be detrimentally affected.</p>
Biological	Because these plants are native to the western United States, there are no biological control programs designed to management any species of <i>Hemizonia</i> .

CHEMICAL CONTROL

The following specific use information is based on reports by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions for use may vary between brands; see label before use. Herbicides are listed by mode of action and then alphabetically. The order of herbicide listing is not reflective of the order of efficacy or preference.

GROWTH REGULATORS	
2,4-D Several names	<p>Rate: 1.5 qt product/acre (1.4 lb a.e./acre)</p> <p>Timing: Postemergence when plants are in rosette stage in winter or early spring. Application during cool weather allows for the use of ester formulations of 2,4-D, which may have better absorption into the glandular leaves.</p> <p>Remarks: 2,4-D is a broadleaf herbicide and will not damage grasses. It can be a restricted use herbicide in some areas. The ester formulation should not be applied when temperatures are above 80°F.</p>
Aminocyclopyrachlor + chlorsulfuron <i>Perspective</i>	<p>Rate: 1.75 to 2.75 ounces product/acre</p> <p>Timing: Preemergence or early postemergence before bolting.</p> <p>Remarks: <i>Perspective</i> provides broad-spectrum control of many broadleaf species. Although generally safe to grasses, it may suppress or injure certain annual and perennial grass species. Do not treat in the root zone of desirable trees and shrubs. Do not apply more than 11 oz product/acre per year. At this high rate, cool-season grasses will be damaged, including bluebunch wheatgrass. Not yet labeled for grazing lands. Add an adjuvant to the spray solution. This product is not approved for use in California and some counties of Colorado (San Luis Valley).</p>
Dicamba <i>Banvel, Clarity</i>	<p>Rate: 1 to 2 pt product/acre (0.5 to 1 lb a.e./acre)</p> <p>Timing: Postemergence when target plants are small and rapidly growing.</p> <p>Remarks: Dicamba is a broadleaf-selective herbicide often combined with other active ingredients such as 2,4-D. Do not apply when outside temperatures exceed 80°F.</p>
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Chlorsulfuron <i>Telar</i>	<p>Rate: 0.5 to 1 oz product/acre (0.375 to 0.75 oz a.i./acre)</p> <p>Timing: Preemergence or postemergence to plants in rosette stage.</p> <p>Remarks: Chlorsulfuron has mixed selectivity and is generally safe on grasses. It is most effective preemergence. Use a surfactant for postemergence applications. It has fairly long soil residual activity.</p>

RECOMMENDED CITATION: DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.