

# Shevock's Goldenaster (*Heterotheca shevockii*)

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## Legal Status

**State:** Not state listed

**California Rare Plant Rank:** 1B.3

**Federal:** Not federally listed; Forest Service Sensitive

**Critical Habitat:** No critical habitat has been designated for this species.

**Recovery Planning:** There is no recovery plan for this species.

**Notes:** No status changes proposed or anticipated during the permit term.

## Taxonomy

Although specimens of Shevock's goldenaster (*Heterotheca shevockii*) were collected as early as 1932 (Consortium of California Herbaria 2012), it was not recognized as a new taxon until Semple (1992) described it as *Heterotheca villosa* var. *shevockii*. The plant was named for James Shevock, the first Sequoia National Forest botanist. Mr. Shevock collected the specimens in 1981 and provided information on the species' appearance and habitat (Semple 1992). Semple (1996) later raised Shevock's goldenaster to full species rank as *Heterotheca shevockii*, which is the accepted name in the most recent taxonomic treatments of the genus (Semple 2006, 2012). Other common names sometimes used for the species include Kern Canyon goldenaster (U.S. Department of Agriculture, Forest Service 2009) and Kern Canyon false goldenaster (U.S. Department of Agriculture, Natural Resources Conservation Service 2012).

Descriptions of Shevock's goldenaster physical characteristics and discussions of how it can be distinguished from other species of *Heterotheca* can be found in Semple (2006, 2012).

## Distribution

### General

Shevock's goldenaster is restricted to the Kern River Canyon in Kern County, California. The species exists as a single metapopulation extending from the mouth

of the Kern River Canyon to within a few miles of the dam at Lake Isabella (U.S. Forest Service 2009).

## Distribution and Occurrences within the Study Area

One occurrence of Shevock's goldenaster is known from the study area. The land ownership is not reported, although the occurrence is along State Route 178 and partially within the California Department of Transportation (Caltrans) right-of-way. The last reported observation of the occurrence was in 1996 (California Department of Fish and Game 2012), although it may have been observed more recently by Caltrans biologists (U.S. Department of Agriculture, Forest Service 2009).

## Natural History

### Habitat Requirements

Shevock's goldenaster has been collected growing in open sandy areas and from rock crevices within the riparian woodland of the Kern River (California Department of Fish and Game 2012). Associated species include interior live oak (*Quercus wislizeni*), California sycamore (*Platanus racemosa*), red willow (*Salix laevigata*), black willow (*Salix gooddingii*), California buttonwillow (*Cephalanthus occidentalis*), mulefat (*Baccharis salicifolius*), and mugwort (*Artemisia douglasiana*). Shevock's goldenaster occurs at elevations between 750 and 2,950 feet (California Department of Fish and Game 2012).

**Table 1. Habitat Associations for Shevock's Goldenaster**

Land Cover Type	Habitat Designation	Habitat Parameters	Rationale
Valley-foothill riparian	Primary	Cieneba series soils; above 750 feet elevation	California Department of Fish and Game 2012
Oak woodland	Secondary	Cieneba series soils; above 750 feet elevation	California Department of Fish and Game 2012

## Reproduction

Shevock's goldenaster is an herbaceous perennial that blooms in late summer (Semple 2012). No other specific information is available about reproduction in Shevock's goldenaster. However, some general information available for other species of *Heterotheca* may also apply to Shevock's goldenaster. Species of *Heterotheca* are reported to be incapable of self-pollination and require pollinators to set seed, the most effective of which appear to be bees (Olsen 1996). Seed set begins shortly after pollination, and mature seeds can remain in the flower heads for a short time after blooming (Baskin and Baskin 1976). Most seeds can germinate

immediately after dispersal, although some of the seeds may remain dormant for a year or more (Baskin and Baskin 1976; Flint and Palmblad 1978; Venable and Levin 1985). Therefore, seedling establishment is expected to occur in fall or early winter, upon the start of the rainy season.

**Table 2. Key Seasonal Periods for Shevock's Goldenaster**

	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Flowering								✓	✓			
Seed Set									✓	✓		
Seedlings	✓	✓									✓	✓

Sources:  
Notes:

## Ecological Relationships

Shevock's goldenaster appears to do well in disturbed areas (California Department of Fish and Game 2012), which may be a factor related to its presence in the riparian zone of the Kern River.

## Population Status and Trends

**Global:** Shevock's goldenaster is currently known from a total of nine occurrences. The condition and viability of seven Shevock's occurrences are ranked as fair, and the status of two occurrences is unknown (California Department of Fish and Game 2012). The population trend for all occurrences is unknown (California Department of Fish and Game 2012).

**State:** Same as above

**Study Area:** Same as above

## Threats and Environmental Stressors

Most of the occurrences of Shevock's goldenaster are along State Route 178 and are, consequently, subject to disturbance by road maintenance activities (California Department of Fish and Game 2012). Shevock's goldenaster occurrences may also be threatened by recreational developments along the Kern River (U.S. Department of Agriculture, Forest Service 2009).

## Conservation and Management Activities

No existing conservation and management activities that affect Shevock's goldenaster are known to be ongoing or planned in the study area.

## Data Characterization

Information on the habitat requirements of Shevock's goldenaster appears to be adequate for modeling the species distribution in the study area and is likely to be adequate to guide initial species management or other conservation measures. Monitoring of the populations will be needed to identify specific and potentially unique ecological relationships that may need to be addressed.

## Management and Monitoring Considerations

Information on the location and extent of the Shevock's goldenaster occurrence in the study area is nonspecific, and surveys of the occurrence will be necessary to establish these parameters. Monitoring of the populations will also be necessary to determine detailed information about the life history of Shevock's goldenaster that may be needed to determine specific management measures.

## Predicted Species Distribution in Study Area

[TBD with species models.]

## Model Description

**Primary Habitat:** Primary habitat for Shevock's goldenaster consists of the valley-foothill riparian landcover type above 750 feet elevation, where Cieneba series soils are present<sup>1</sup>.

**Secondary Habitat:** Secondary habitat for Shevock's goldenaster consists of the oak woodland landcover type above 750 feet elevation, where Cieneba series soils are present.

## Model Results

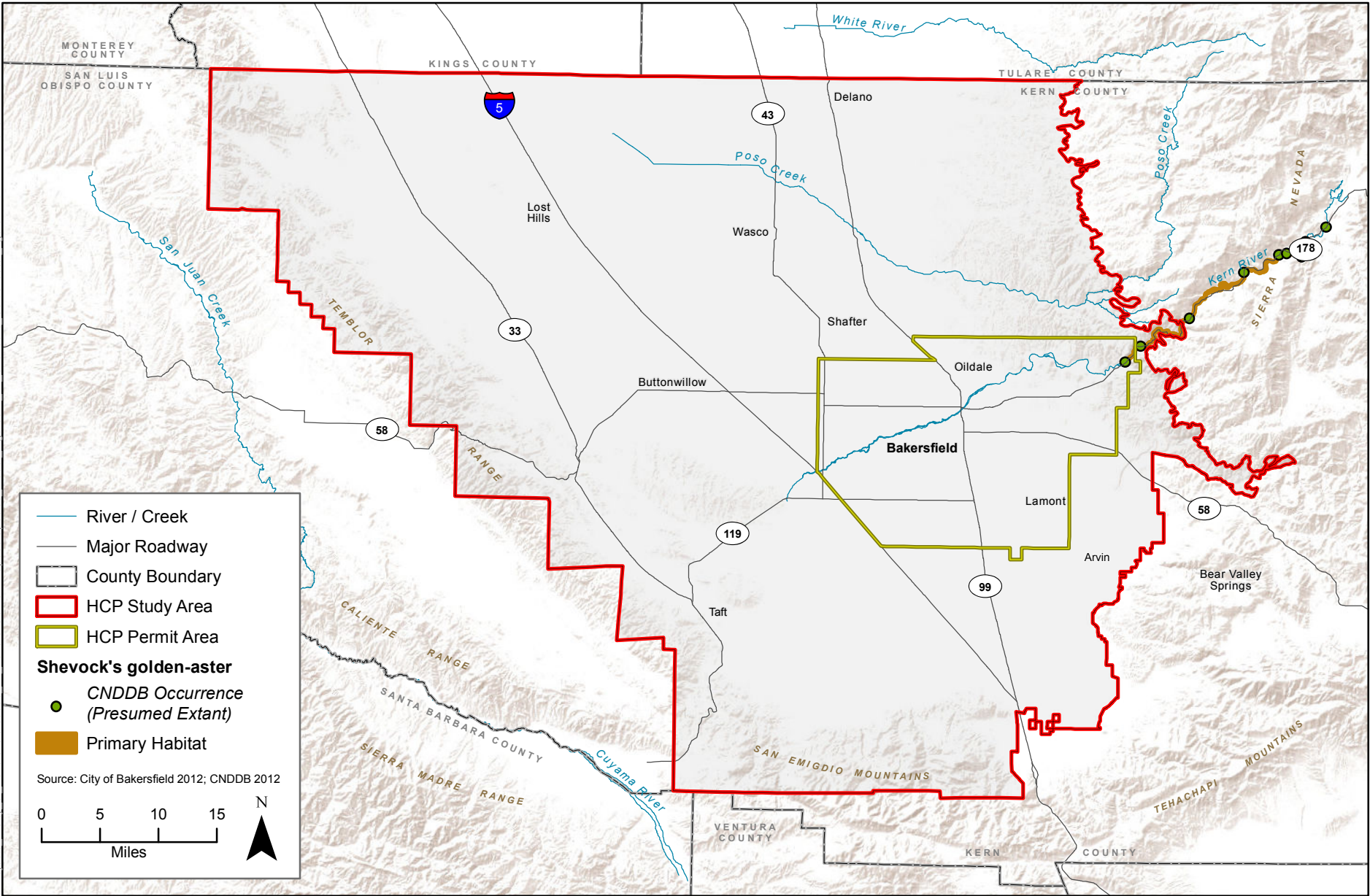
The original model results predicted that no potential habitat for Shevock's goldenaster was present in the study area. The most likely explanation for this is that valley-foothill riparian habitat along the Kern River are smaller than the minimum map unit used for the land cover mapping. To capture potential habitat for this species, the model was modified to be a corridor 600-foot wide corridor centered on the Kern River. This model captured most of the occurrences of Shevock's goldenaster, including both occurrences in the study area. Literature Cited

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<sup>1</sup> Soils information determined by overlaying the occurrence locations over SSURGO soils maps using SoilWeb (California Soil Resources Lab 2012).

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# Bakersfield Conservation Plan



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Figure D-17  
Shevock's golden-aster Modeled Habitat