

## SUISUN THISTLE

*Cirsium hydrophilum* var. *hydrophilum*

USFWS: Endangered

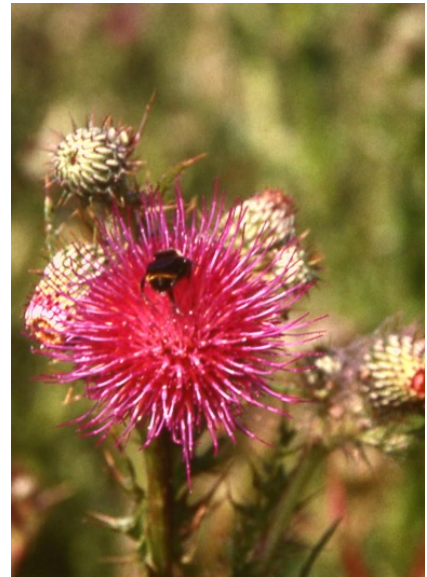
CDFG: None

CNPS: List 1B

### Species Account

**Status and Description.** Suisun thistle (*Cirsium hydrophilum* var. *hydrophilum*) was federally-listed as endangered November 20, 1997 (62 FR 61916) and is on CNPS' List 1B. Three locations in Solano County were designated as Critical habitat on April 12, 2007 (Federal Register Volume 72, Number 70).

Suisun thistle is a biennial or short-lived perennial herb in the thistle tribe (Cardueae) of the sunflower family (Asteraceae). This thistle has 1 to 2 m tall, erect stems that are branched above. The margins of the leaf-blades and leaf-stems are spiny and both leaf surfaces are thinly, cob-webby hairy. The flowerheads of rose-purple flowers are 2 to 3 cm long and born singly or in small clusters on the stems. The phyllaries (bracts below the flowerheads) are spine-fringed with narrow, sticky-glandular areas (Baldwin et al 2012, USFWS 2003; USFWS 2010).



L.C Lee Associates

**Range and Distribution.** Suisun thistle is endemic to Solano County, occurring only in Suisun Marsh. In 1975, this species was reported as possibly extinct due to hybridization with bull thistle (*Cirsium vulgare*) (California Department of Water Resources 1994), because it had not been collected for about 15 years (USFWS 2003). It was rediscovered in 1989 by N. Havlik. Four populations of this thistle are reported from Suisun Marsh: one at Grizzly Island Wildlife Refuge, one at Peytonia Slough Ecological Reserve (CDFG lands), and two at Rush Ranch (Solano County Open Space Foundation)(CNDDDB 2011, CNPS 2011). All four sites are designated as Critical Habitat.

**Habitat and Ecology.** Suisun thistle grows in the upper reaches of tidal marshes, most often near small watercourses such as sloughs or ditches dug for mosquito abatement. At Rush Ranch, it is most commonly found growing with bullrushes (*Scirpus* spp.) and saltgrass (*Distichlis spicata*). Other associated plants include alkali heath (*Frankenia salina*), pickleweed (*Salicornia virginica*), broad-leaved pepper-weed (*Lepidium latifolium*), and rushes (*Juncus* spp). At Peytonia Slough Ecological Reserve, Suisun thistle was observed growing in peaty soil with cinquefoil (*Potentilla* sp.), water parsley (*Oenanthe sarmentosa*), triglochin (*Triglochin* sp.), and rushes. It has been observed growing with another endangered species, soft bird's-beak (*Chloropyron molle* ssp. *molle*). Suisun thistle blooms July through September (CNPS 2011).

Suisun thistle appears to be more abundant in years with lower water levels or higher salinities when competing species are less abundant (CDWR 1996). Annual observations of the Rush Ranch population began in 1991 and has revealed a significant decline in the number of Suisun thistle plants with some recovery in 1996. The Peytonia Slough population declined significantly in 1995 and

1996 while competing species increased. Considering the fact that this thistle grows along bare sections of watercourses and appears to colonize disturbed areas (CNDDDB 2011), Suisun thistle may be a poor competitor and may require bare soil for seedling establishment.

**Population Levels and Occurrence in the Plan Area.** Suisun thistle is only associated with the Coastal Marsh vegetation of Suisun Marsh in the Coastal Marsh Natural Community within the Plan Area. Four populations of Suisun thistle are known from Suisun Marsh (see above). Population sizes reported for Suisun thistle on Grizzly Island range from “five plants” to “three colonies” to “thousands of plants” (CNDDDB 2011). More detailed studies at Rush Ranch in 2003 estimated the Suisun thistle population there to be approximately 137,500 (22,300 – 873,200) that were lumped into 47 subpopulations (L.C. Lee Associates 2003), far more plants than few thousand plants that were previously estimated by the USFWS (2003). The long-term effects of a recent burn at Peytonia Slough Ecological Reserve on this thistle is not known.

**Threats to the Species.** In the past, marshland habitat was lost through development, dredge disposal, diking, and agricultural conversion. Currently, changes in hydrology, invasive plant species, including peppergrass (*Lepidium latifolium*), erosion, and feral pigs pose the greatest threats to Suisun thistle (CNPS 2011; L.C. Lee Associates 2003). Indirect effects from urban development, mosquito abatement activities, potential hybridization with non-native thistles, water pollution, and the alteration of tidal regimes threaten the Suisun thistle (USFWS 2003). Furthermore, its highly restricted distribution increases its susceptibility to random catastrophic events such as disease or pest outbreak, severe drought, oil spills, or other natural or human-caused disasters (USFWS 2003). Populations are partly protected on the CDFG Grizzly Island Wildlife Refuge and Peytonia Slough Ecological Reserve [CNDDDB 2011, CNPS 2011]).

### Literature Cited

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