

A.29 RED BLUFF DWARF RUSH (*JUNCUS LEIOSPERMUS* VAR. *LEIOSPERMUS*)

A.29.1 Legal and Other Status

Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*) currently has no status under the federal or the California Endangered Species Act (DFG 2011).

The California Native Plant Society (CNPS) includes California beaked-rush on California Rare Plant Rank 1B.1 (formerly List 1B.1): Plants Rare, Threatened, or Endangered in California and Elsewhere (CNPS 2010). CNPS gives it a state ranking of S2.2, meaning there are six to 20 occurrences or 1,000 to 3,000 individuals or it is known to occupy between 2,000 and 10,000 acres (CNPS 2008).

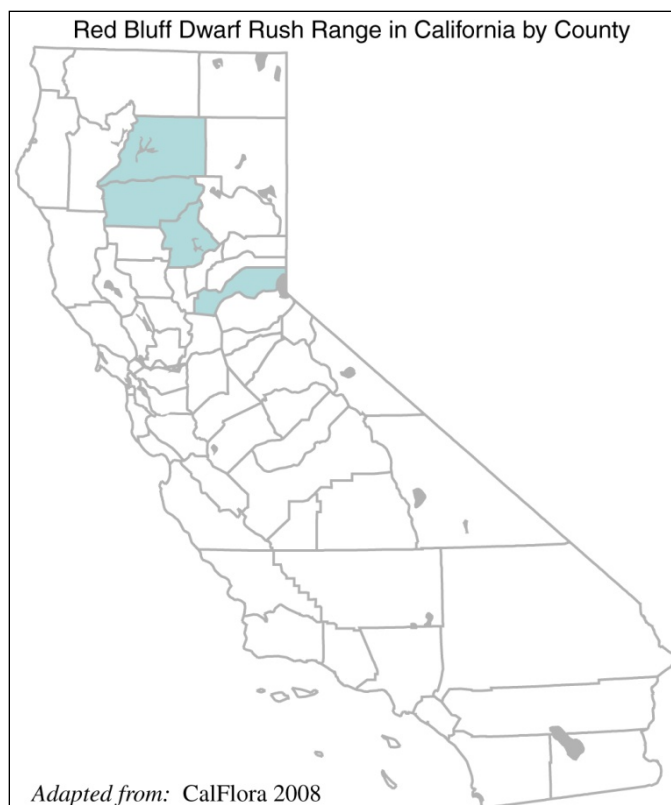


photo courtesy Dr. Dean Wm. Taylor

A.29.2 Species Distribution and Status

A.29.2.1 Range and Status

Red Bluff dwarf rush is endemic to California, where it is known from Tehama, Shasta, Placer, and Butte counties in the Sacramento Valley. It ranges in elevation from 115 to 3,346 feet (30 to 1,020 meters) (CNPS 2008).



Records from the California Natural Diversity Database (CNDDDB) indicate that Red Bluff dwarf rush is known from a total of 41 occurrences, of which 39 are listed as presumed extant (CNDDDB 2008). Of the 30 occurrences located outside of Butte County, 21 are in Shasta, nine are in Tehama, and one is in Placer.

A.29.2.2 Distribution and Status in the Plan Area

In Butte County, the Red Bluff dwarf rush is known from 11 CNDDDB occurrences, found in the Oroville, Shippee, Campbell Mound, Richardson Spring and Cherokee quadrangles (CNDDDB 2008). Eight of these are in the Plan Area, of which the

majority are found on or near Table Mountain, with one occurrence known from the valley floor. Twenty-one additional non-CNDDDB reported occurrences have been recorded in the Plan Area (see Figure A.29-1, *Red Bluff Dwarf Rush Modeled Habitat and Recorded Occurrences*). The occurrences within the Plan Area range from 1300 to 1550 feet in elevation (CNDDDB 2008).

Populations of Red Bluff dwarf rush vary widely in size. In Butte County, the two largest populations numbered over 1,000 plants each in 1998, both located on North Table Mountain (occurrence no. 6 and no. 42). Another population numbering over 500 plants in 1998 is located north of the Thermalito Diversion Pool (occurrence no. 35). Only two plants were observed in 2002 at another population north of the Thermalito Afterbay (occurrence no. 36). The numbers of plants was not quantified for other occurrences within the Plan Area (CNDDDB 2008).

A.29.3 Habitat Requirements and Special Considerations

Red Bluff dwarf rush inhabits vernal moist habitats, including vernal pools, within valley grassland, chaparral, and foothill woodland habitats (CNPS 2008, Friends of Bidwell Park 2008). Hickman (1993) described habitat as vernal pool margins and wet places in chaparral and woodland. The species is generally found between 300 to 1,000 feet (90 to 305 meters), but reaches 3,350 feet (1,020 meters) in the Goose Valley area of Tehama County (BLM 2008). It is often found in sparsely vegetated habitats (BLM 2008).

Common plant associates of Red Bluff dwarf rush include tricolor monkey flower (*Mimulus tricolor*), stalked popcorn flower (*Plagiobothrys stipitatus* var. *micranthus*), winged water starwort (*Callitriche mariginata*), Great Valley eryngo (*Eryngium castrense*), common monkey flower (*Mimulus guttatus*), Oregon wooly-heads (*Psilocarphus oregonus*), meadowfoam (*Limnanthes alba*), and Pacific foxtail (*Alopecurus saccatus*). Red Bluff dwarf rush also often grows with leafybract dwarf rush (*Juncus capitatus*), toad rush (*Juncus bufonius*), and twelfth rush (*Juncus uncialis*). Invasive nonnative species include Italian ryegrass (*Lolium multiflorum*) (CNDDDB 2008).

A.29.4 Life History

Red Bluff dwarf rush is an annual herb belonging to the Juncaceae (rush) family. Plants measure 2 to 12.5 centimeters (cm) in height, and flower from March through May (CNPS 2008). Little is known about the species' reproductive biology but it is assumed to be wind pollinated, as are most plants in the Juncaceae.

Fruiting takes place in the late spring to fall (Hickman 1993). Seed dispersal in the plant has not been studied.

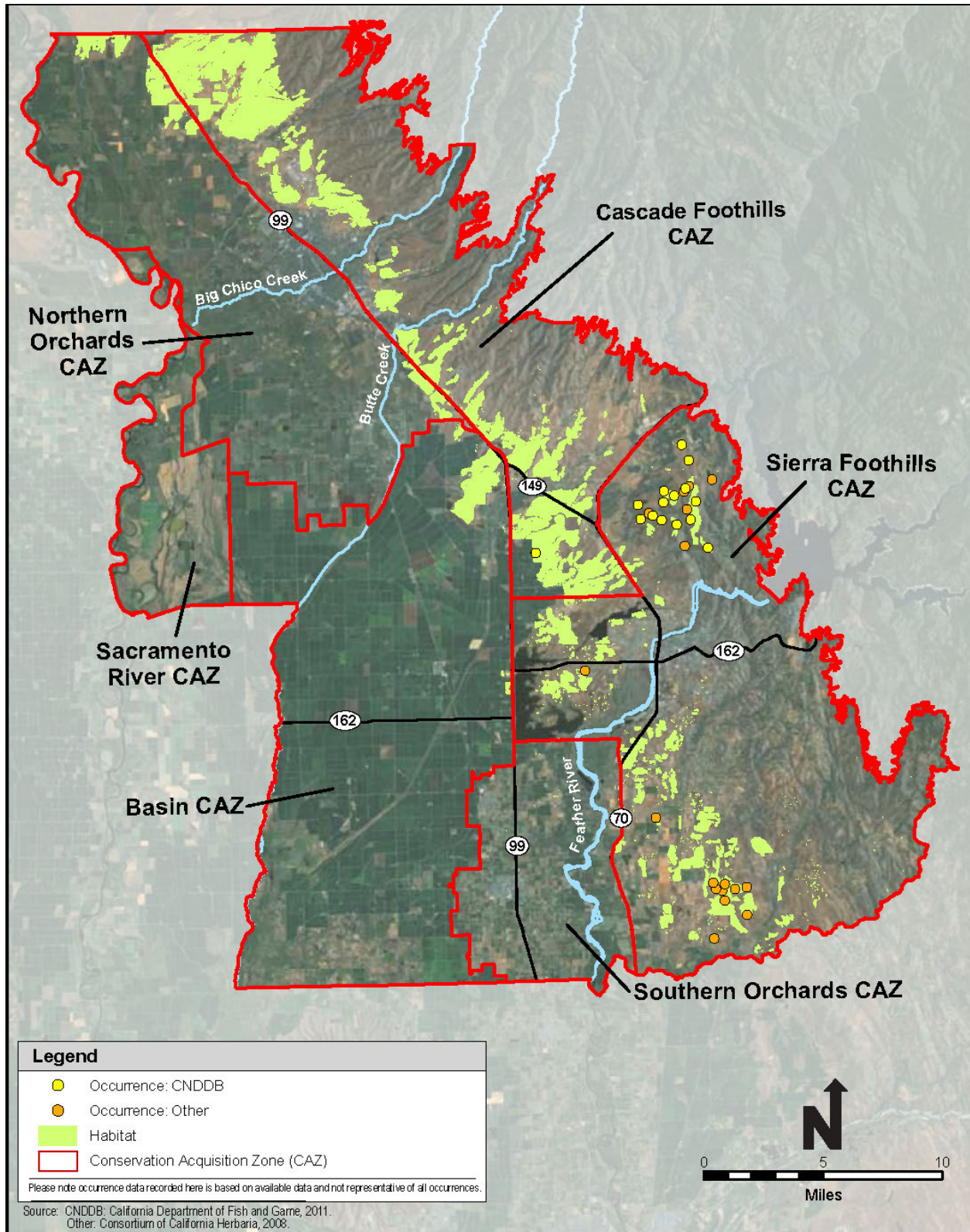


Figure A.29-1. Red Bluff Dwarf Rush Modeled Habitat and Recorded Occurrences

A.29.5 Threats

Threats to Red Bluff dwarf rush include development of habitat for residential, commercial and agricultural purposes and industrial forestry (CNPS 2008). Competitive exclusion by nonnative annual grasses, off-road vehicle use, road construction, and grazing are listed as other possible threats (CNDDDB 2008).

A.29.6 Relevant Conservation Efforts

Red Bluff dwarf rush is proposed for coverage under the Placer County Conservation Plan (Placer County 2011 draft). No other specific conservation efforts for the species are known of at this time.

A.29.7 Species Habitat Suitability Model

A.29.7.1 Habitat

Red Bluff dwarf rush habitat includes areas in the following BRCP mapped land cover types:

- Vernal pools;
- Altered vernal pools; and
- Grassland with vernal swale complex.

Vernal pools that may support Red Bluff dwarf rush habitat may also occur as inclusions in mapped grassland, blue oak savanna, ranchettes–open, and disturbed ground land cover types. These inclusions were not mapped because they did not meet the mapping criteria for vernal pool, altered vernal pool, and grassland with vernal swale complex land cover types.

A.29.7.2 Assumptions

Red Bluff dwarf rush inhabits vernal moist habitats, including vernal pools, within valley grassland, chaparral, and foothill woodland habitats (CNPS 2008, Friends of Bidwell Park 2008) within low elevation Northern Basalt Flow, Northern Claypan, Northern Hardpan, and Northern Volcanic Mudflow vernal pool types (Sawyer and Keeler-Wolf 1995, USFWS 2005). The species specialize on higher, less mesic edges of vernal pools but has also been documented in deeper parts of vernal pools (USFWS 2005). Microhabitats from which the plants have been reported are the edges of vernal pools, bottoms of intermittent drainages, and on pocket gopher (*Thomomys* species) and ground squirrel (*Spermophilus* species) mounds (USFWS 2005).

Given these habitat preferences, suitable habitat for the Red Bluff dwarf rush is defined as the vernal pool, altered vernal pool, and grassland with vernal swale complex land cover types within the Plan Area (Stuart Consulting 2002).

A.29.8 Recovery Plan Goals

A recovery plan and recovery goals have not been prepared for this species.

A.29.9 References

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