

1 **A.32 RED BLUFF DWARF RUSH**
 2 **(*JUNCUS LEIOSPERMUS* VAR.**
 3 ***LEIOSPERMUS*)**

4 **A.32.1 Legal and Other Status**

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



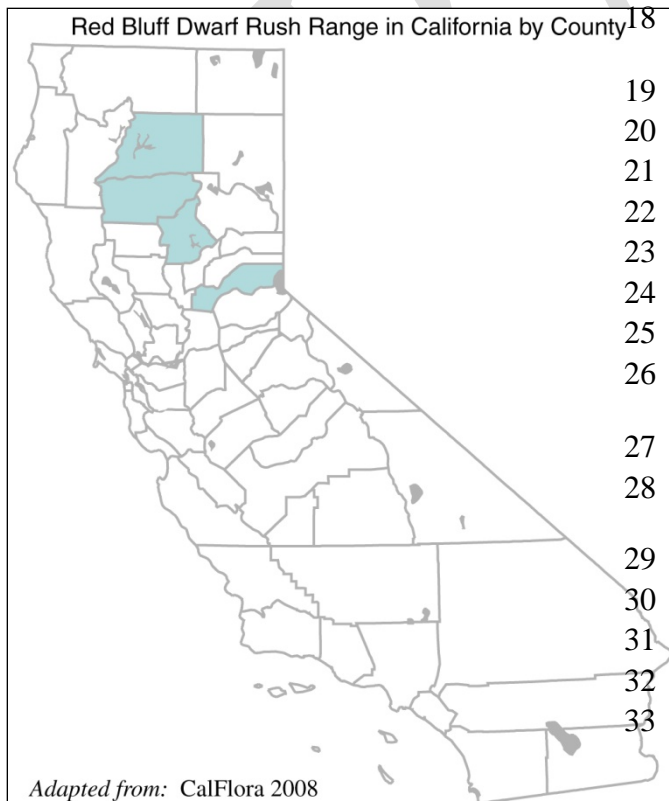
photo courtesy Dr. Dean Wm. Taylor

8 The California Native Plant Society (CNPS) includes California
 9 beaked-rush on List 1B.1, rare and endangered in California
 10 and elsewhere (CNPS 2008). CNPS gives it a state ranking of
 11 S2.2, meaning there are six to 20 occurrences or 1,000 to 3,000
 12 individuals or it is known to occupy between 2,000 and 10,000
 13 acres (CNPS 2008).

14 **A.32.2 Species Distribution and Status**

15 **A.32.2.1 Range and Status**

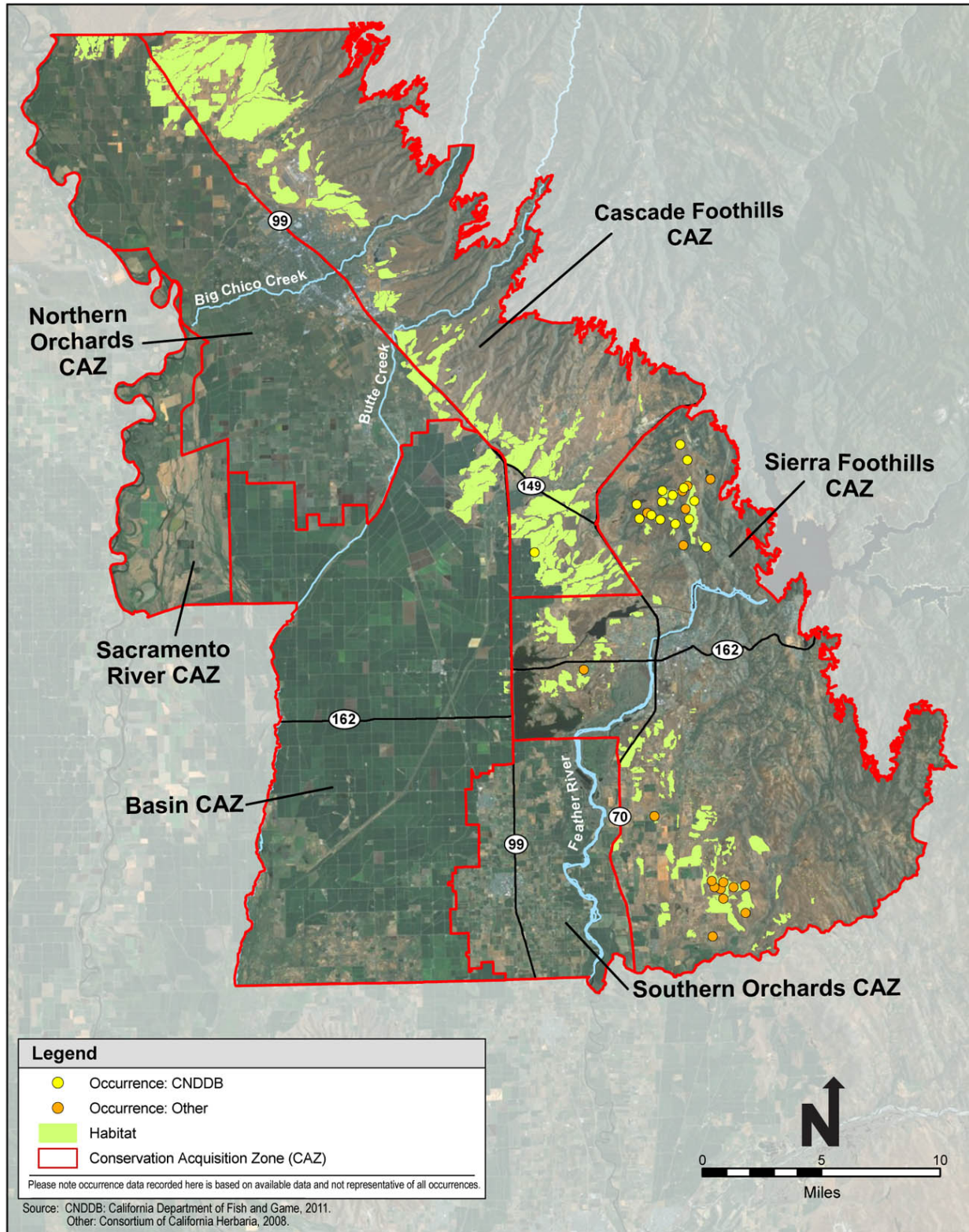
16 Red Bluff dwarf rush is endemic to California, where it is known from Tehama, Shasta, Placer,
 17 and Butte counties in the Sacramento Valley. It ranges in elevation from 115 to 3,346 feet (30 to
 18 1,020 meters) (CNPS 2008).



19 Records from the California Natural
 20 Diversity Database (CNDDDB) indicate
 21 that Red Bluff dwarf is known from a total
 22 of 41 occurrences, of which 39 are listed
 23 as presumed extant (CNDDDB 2008). Of
 24 the 30 occurrences located outside of
 25 Butte County, 21 are in Shasta, 9 are in
 26 Tehama, and 1 is in Placer.

27 **A.32.2.2 Distribution and Status in**
 28 **the Plan Area**

29 In Butte County, the Red Bluff dwarf rush
 30 is known from 11 CNDDDB occurrences,
 31 found in the Oroville, Shippee, Campbell
 32 Mound, Richardson Spring and Cherokee
 33 quadrangles (CNDDDB 2008).



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Figure A-32. Red Bluff Dwarf Rush Modeled Habitat and Recorded Occurrences

1 Eight of these are in the Plan Area, of which the majority are found on or near Table Mountain,
2 with one occurrence known from the valley floor (see Figure A-32). The occurrences within the
3 Plan Area range from 1300 to 1550 feet in elevation (CNDDDB 2008).

4 Populations of Red Bluff dwarf rush vary widely in size. In Butte County, the two largest
5 populations numbered over 1,000 plants each in 1998, both located on North Table Mountain
6 (Occurrence No. 6 and No. 42). Another population numbering over 500 plants in 1998 is
7 located north of the Thermalito Diversion Pool (Occurrence No. 35). Only two plants were
8 observed in 2002 at another population north of the Thermalito Afterbay (Occurrence No. 36).
9 The numbers of plants was not quantified for other occurrences within the Plan Area (CNDDDB
10 2008).

11 **A.32.3 Habitat Requirements and Special Considerations**

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

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

26 **A.32.4 Life History**

27 Red Bluff dwarf rush is an annual herb belonging to the Juncaceae (rush) family. Plants measure
28 2 to 12.5 cm in height, and flower from March through May (CNPS 2008). Little is known
29 about the species' reproductive biology but it is assumed to be wind pollinated, as are most
30 plants in the Juncaceae.

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

33 **A.32.5 Threats**

34 Threats to Red Bluff dwarf rush include development of habitat for residential, commercial and
35 agricultural purposes and industrial forestry (CNPS 2008). Competitive exclusion by nonnative

1 annual grasses, off-road vehicle use, road construction, and grazing are listed as other possible
2 threats (CNDDDB 2008).

3 **A.32.6 Relevant Conservation Efforts**

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

7 **A.32.7 Species Habitat Suitability Model**

8 **A.32.7.1 Habitat**

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

- 10 • Vernal pools;
- 11 • Altered vernal pools; and
- 12 • Grassland with vernal swale complex.

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

17 **A.32.7.2 Assumptions**

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

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

29 **A.32.8 Recovery Plan Goals**

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

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1 A.32.9 References

2 Literature Cited

- 3 BLM (Bureau of Land Management). 2008. Special status plants of the Redding Field Office.
4 Accessed March 17, 2008 from
5 http://www.blm.gov/ca/pa/ssp/plants/juncus_leiospermus.html.
- 6 Calflora: Information on California plants for education, research and conservation. [web
7 application]. 2008. Berkeley, California: The Calflora Database (a non-profit
8 organization). Accessed March 19, 2008 from <http://www.calflora.org/>.
- 9 CNDDDB (California Natural Diversity Database). 2008 Natural Heritage Division. California
10 Department of Fish and Game, State of California. RareFind, March.
- 11 CNPS (California Native Plant Society). 2008. Inventory of Rare and Endangered Plants (online
12 edition, v7-08a). California Native Plant Society. Sacramento, CA. Accessed March 20,
13 2008 from <http://www.cnps.org/inventory>.
- 14 DFG (California Department of Fish and Game). 2011. Special Vascular Plants, Bryophytes, and
15 Lichens List, Natural Diversity Database. Accessed May 21, 2011 from
16 <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf>.
- 17 Friends of Bidwell Park. 2008. List of Protected Species in Bidwell Park. Accessed March 20,
18 2008 from <http://www.friendsofbidwellpark.org/specialspecies.html>.
- 19 Hickman, J. C., ed. 1993. The Jepson Manual. Berkeley: University of California Press.
- 20 Sawyer, J. O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. Sacramento:
21 California Native Plant Society.
- 22 Stuart Consulting. 2002. Survey for Special Status Botanical Species for the City of Chico's
23 Bidwell Park Trails Project. Accessed March 17, 2008 from
24 http://www.chico.ca.us/_mod_resource/content/Parks/Bidwell_Park_Information/2002_Survey_for_Special_Status_Botanical_Species_fo_Bidwell_Park_Trails/Survey_for_Bidwell_Park_Trails.pdf.
- 27 USFWS (U.S. Fish and Wildlife Service). 2005. Recovery Plan for Vernal Pool Ecosystems of
28 California and Southern Oregon. Portland, OR.

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