



A PROJECT OF THE SONOMA-MARIN COASTAL PRAIRIE WORKING GROUP



## VEGETATION TYPES

Like other vegetation types, coastal prairie types are named after the species in the stand with the most ground cover. In coastal prairie, these species are often perennial or annual grasses. Native perennial grasses most common in coastal prairies of Sonoma and Marin Counties are California oatgrass (*Danthonia californica*), tufted hairgrass (*Deschampsia cespitosa*), and Pacific reedgrass (*Calamagrostis nutkaensis*).

Many vegetation types have not yet been characterized. The Manual of California Vegetation, an on-going effort to quantitatively identify all of the vegetation types throughout California, identified 4 types (series) associated with coastal prairie in the first edition (Sawyer and Keeler-Wolf 1995) and 9 types (associations) in the second edition (Sawyer, et al. 2009). Grasslands are particularly difficult to characterize due to the changing abundance of cover of species over the season. Moreover, the distinction between coastal prairie and valley grasslands is less clear in areas where coastal influences reach inland (Ford and Hayes 2007).

In an on-going coastal prairie mapping project, the Coastal Prairie Enhancement Feasibility Study has identified over 34 types of coastal prairie grasslands in Sonoma and Marin Counties, which constitute from 30-50% of the total number of vegetation types in the two counties (CPEFS 2010).

Species composition in coastal prairie tends to vary with landform, each with distinct differences in the occurrence of dominant grass species (Stromberg, et al. 2001). The following is a partial list of the some of the common coastal prairie vegetation types (or “alliances”) found in Sonoma and Marin counties (Sawyer et al. 2009) with some information on the types of land forms they are associated with:

## NATIVE DOMINATED VEGETATION STANDS

- ▶ Pacific Reed Grass Meadows (*Calamagrostis nutkaensis* Herbaceous Alliance) can be found in valley bottoms, the lower portions of alluvial slopes, terraces, and coastal bluffs.

- ▶ California Oat Grass Prairie (*Danthonia californica* Herbaceous Alliance) occurs in coastal prairies and wetlands. The alliance can be found on coastal bluffs, valley bottoms, floodplains, terraces, slopes, and ridge tops. *Baccharis pilularis* (coyote bush) and other woody plants are encroaching upon these stands along the Northern California Coast. Smaller stands of this alliance are also found in the California interior along the western edges of the Sierra Nevada foothills and in meadows in the Sierra Nevada Mountains.
- ▶ Tufted Hairgrass Meadows (*Deschampsia caespitosa* Herbaceous Alliance) is distributed on coastal bluffs, terraces, sand dunes, and seasonally flooded areas. The alliance can also be found in mountain to wet alpine meadows in the southern Cascades and Sierra Nevada Ranges.
- ▶ Blue Wild Rye Meadows (*Elymus glaucus* Herbaceous Alliance) occur along the north coast in foothill meadows and elevated flats.
- ▶ Idaho Fescue Grassland (*Festuca idahoensis* Herbaceous Alliance) is found on bald hills and serpentine soils along the coast and in many habitats throughout northern California. The non-natives grasses *Anthoxanthum odoratum* and *Holcus lanatus* are commonly co-dominant in this alliance in coastal terraces in Mendocino and Sonoma Counties (see next point below).
- ▶ Red Fescue Grassland (*Festuca rubra* Herbaceous Alliance) occurs on coastal bluffs, headlands, toe slopes, terraces, and sand dunes. *Baccharis pilularis* (coyote bush) is encroaching upon these stands in Marin County. *Nassella pulchra* Herbaceous Alliance (purple needle grass grassland) is dominant or is present along with other perennial grasses, forbs and shrubs.

#### STANDS DOMINATED BY NON-NATIVES: "SEMI-NATURAL HERBACEOUS STANDS"

- ▶ Common Velvet Grass-Sweet Vernal Grass Meadows (*Holcus lanatus*-*Anthoxanthum odoratum*) semi-natural herbaceous stands are dominant or co-dominant along coastal bluffs, terraces and moist pastures. *Holcus lanatus*, introduced from Europe, is now dominating many of California's coastal prairies including those in Sonoma and Marin Counties.
- ▶ Bent Grass-Tall Fescue Meadows (*Agrostis (gigantean, stolonifera)*—*Festuca arundinaceae*) semi-natural herbaceous stands are dominant or co-dominant in areas that were once occupied by Pacific reedgrass (*Calamagrostis nutkaensis*), California oatgrass (*Danthonia californica*), and tufted hairgrass (*Deschampsia cespitosa*) alliances.
- ▶ Annual Dogtail Grasslands (*Cynosurus echinatus*)—semi-natural herbaceous stands are dominant or co-dominant with other non-natives in the herbaceous layer. These deteriorated grasslands can contain native plants including California oatgrass (*Danthonia californica*),