

10. *Quercus gambelii* (*Quercus grisea*) Shrubland and Shrub Savanna Association (PS)

Gambel oak (Gray oak) Shrubland and Shrub Savanna Association (PS)

This park-special association is described from only two small sites. Both appear to have burned or otherwise been previously disturbed, potentially from multiple events, leading to this seral stage of development. These sites are present within the much larger surrounding woodland associations dominated by ponderosa pine (*Pinus ponderosa*) and/or Douglas fir (*Pseudotsuga menziesii*), with a lower canopy of Gambel oak (*Quercus gambelii*). Within these sites, trees and tall shrubs are virtually absent—except along the boundaries, where canopy trees from the adjacent woodlands may be present. Instead, vegetation is characterized by a subcanopy (0.5–2 m) dominated by shrubby Gambel oak (*Q. gambelii*) with one common associate, gray oak (*Quercus grisea*). These species form a sparse subcanopy layer, with cover averaging 10% for Gambel oak (*Q. gambelii*) and 5% for gray oak (*Q. grisea*). Common hoptree (*Ptelea trifoliata*) and black cherry (*Prunus serotina*) are occasional associates in the stratum. The herbaceous stratum (<0.5 m) is defined by a diverse mix of perennial forbs, grasses, and subshrubs, including Carruth’s sagewort (*Artemisia carruthii*), silvery lupine (*Lupinus argenteus*), plumed brickellbush (*Brickellia brachyphylla*), blue grama (*Bouteloua gracilis*), and sideoats grama (*Bouteloua curtipendula*). Where this community is present as a shrub savanna, blue grama (*B. gracilis*) may become an herbaceous stratum dominant, with cover approaching 8%.

This sparse shrubland is found on north/northeast-facing backslopes of hills on the south side of the river. Slope is approximately 40–60%. Ground cover has up to 40% gravel and rock, with around 45% bare ground. The community covers 0.34% (3.60 ha/8.90 ac) of the project area and 0.36% (0.67 ha/1.67 ac) of the monument, exclusively in the main unit.

Common species

- *Quercus gambelii*
- *Quercus grisea*
- *Artemisia carruthii*
- *Bouteloua curtipendula*
- *Bouteloua gracilis*

