FENDER’S BLUE BUTTERFLY
MANAGEMENT
AT FERN RIDGE LAKE

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Fender’s blue butterfly, an Endangered species of the Willamette Valley, requires specific lupine larval hosts, abundant native nectar, and short-statured upland prairie matrix vegetation. From the late 1990s, we augmented larval host and native nectar plant and limited invasive species by annual broadcast mowing and other methods. Lupine introduced in 2002 to the ‘Stepping Stone’ to connect Fern Ridge and BLM populations supported some FBB within 2 years. We began complete restoration of unoccupied areas in 2007, removing cover, planting Roemer’s fescue, nectar, diversity, and lupine. ‘Big Spires’ was colonized in 2016. In 2018, all established lupine planting sites except ‘Cherry Orchard’ were occupied. This represents an increase from 2 to 11 occupied sites and from 12 to over 9,000 individuals. Lupine cover is near the range models suggest for long term survival of an FBB population. We estimate nearly half the sites approach recovery thresholds for nectar.

Restoration and management: Minimum management of invasive shrubs includes annual broadcast mowing: running tractors over dormant larvae does not prevent population growth. Fluazifop treatment reduces tall oatgrass, does not harm butterflies in laboratory experiments. In unoccupied sites, complete removal of existing vegetation with herbicides allows establishment of fluazifop-tolerant Roemer’s fescue matrix. Early forb seed mixes are chosen for tolerance to specific broad-leaf herbicides. Fire followed by glyphosate reduces exotic cover, increases success of subsequent seeding. Lupine is seeded and starts are planted late in the process. Tens of thousands of nectar plants were installed in addition to seeding. Planting container material may accelerate availability of host and nectar. Burning portions of occupied sites can improve conditions enough to make up for larval mortality. All restoration activities continue. Maintenance burning, mowing, spraying, and possibly planting may be required indefinitely to maintain sites near recovery thresholds.