

Appendix 9B

Monitoring Plan: Elderberry Plants within the El Portal Wildland-Urban Interface

Monitoring Plan: Elderberry Plants within the El Portal Wildland-Urban Interface

SL Fritzke, Vegetation Management, Division of Resources Management;
KJ Paintner, Fire, Fuels and Ecology, Division of Visitor and Resource Protection

Background

Prescribed burn treatments are a management element of the El Portal Administrative Site. Prescribed burns are conducted for hazard fuel reduction and restoration and maintenance of viable native plant populations including three plant species listed as Rare through the California Endangered Species Act, through the elimination of non-native plant species and reintroduction of fire as a natural ecosystem process. Some prescribed burn units contain elderberry plants, the sole host for the Valley Longhorn Elderberry Beetle (VELB).

Purpose

To monitor the condition of elderberry plants within burn units, and their potential to serve as habitat for VELB. Three key objectives are addressed in this monitoring plan:

1. Maintenance/establishment of shrub structure on individual plants that will support VELB, specifically critical stem size.
2. Natural regeneration and replacement of shrubs that may be consumed during prescribed burn operations - in numbers and densities sufficient to promote a sustainable population of VELB.
3. Phasing and rotation of burns to allow for retention of enough shrubs to support the existing VELB population level.

Monitoring Objectives, Techniques, and Timing

1. Maintenance/establishment of shrub structure on individual plants that will support VELB.

Barr (1991) studied the distribution and status of the VELB in California, and found that evidence of VELB activity was generally located in branches that were greater than one inch in diameter, though activity was infrequently found in stems as small as 0.5 inches in diameter. In El Portal, VELB exit holes have not been found in branches smaller than one inch in diameter, corresponding with earlier studies. Of the 134 plants found within the El Portal burn units that would receive burn treatments, there were 527 stems greater than 1” in diameter. Of those, only 14 had exit holes indicating active or past habitation by VELB.

In order to insure maintenance of habitat appropriate for VELB within these units, each plant has been mapped (GPS downloaded into GIS) and has been given a reference number.

Phases

Baseline – A baseline will be established immediately upon approval of the Yosemite Fire Management Plan to document the current structure of each individual shrub. Data collection will include the following:

- Plant Reference Number
- Total number of live stems
- Number of stems in three diameter size classes (as measured with calipers or a “Go-No-Go tool): ½” to 1 inch; 1 inch, greater than 1 inch

Preburn – As specific burn units are treated, the plants within that unit will be monitored for these characteristics immediately prior to the treatment.

Postburn - Follow-up monitoring will occur

1 week postburn;

3 months postburn (to determine survival of the individual);

one year postburn (to detect new stem sprouting); and

3 years postburn (to get estimates of how fast new stems move into the critical size category).

Each unit is scheduled for burning every five years, and this schedule will allow for adjustments to burn intensity and shrub pre-treatment changes, if necessary, prior to the second and subsequent burns.

2. Natural regeneration and replacement of shrubs - that may be consumed during prescribed burn operations - in numbers and densities sufficient to promote a sustainable population of VELB.

This objective will be tracked using the information from the monitoring described under objective 1, in conjunction with USF&W VELB experts.

3. Phasing and rotation of burns to allow for retention of enough shrubs to support the existing VELB population level.

The current burn schedule insures that at least 5 years will pass between prescribed fire events for any unit. Using data collected in Objectives 1 & 2 above, adaptive management can move burning back (delayed), if there has been insufficient regeneration of critical stems. Treatment of burn units will be done to retain unburned units adjacent to burned units to allow for elderberry plants to serve as potential refugia for VELB that will lose available habitat over the short term. All plants with exit holes will be protected from fire. All other plants will be burned to promote natural regeneration. See separate burn schedule description for the 5-year plan for burns.

References

Barr, Cheryl B. 1991 “The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*.” U.S. Fish and Wildlife Service Sacramento, CA