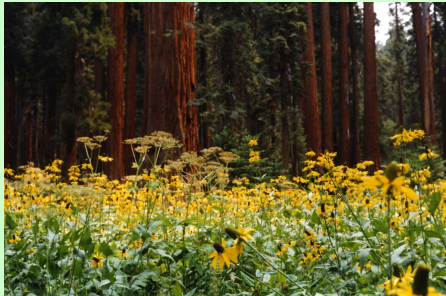


Restoration of Giant Forest



Overview and History



Image source: NPS photo

- ❖ 1012 ha old-growth grove of giant sequoia (*Sequoiadendron giganteum*) and mixed conifer
- ❖ 25 ha extensively developed in 19th century
- ❖ Development removed during 1990s

Need for Restoration

- ❖ Removal of buildings and parking lots leaves canopy gaps and impacted soils
- ❖ Compaction and loss of organic matter
- ❖ Absence of seed bank
- ❖ Absence of understory seed sources
- ❖ Absence of fuels adequate to carry fire needed to release sequoia seeds
- ❖ Vulnerable to exotic species invasion

Fire-caused gaps as a natural disturbance model



- ❖ Sequoia / mixed conifer habitat highly fire dependent
- ❖ Prescribed burn areas available for quantitative analysis and comparison with restoration area gaps

Methods:

- ❖ Quantitative data collected on regeneration within prescribed fire gaps
- ❖ Gap size and location within gap (edge vs. center) found to be major determining factors in species composition
- ❖ Restoration prescription extrapolated for each individual post-development gap

Adaptive Management

- ❖ Small-scale experiment built into restoration project
- ❖ Re-evaluation of restoration and management programs
- ❖ Varying levels of management applied to plots

References:

- ❖ Demetry, Athena. 1998. A Natural Disturbance Model for the Restoration of Giant Forest Village, Sequoia National Park. In Proceedings: High Altitude Revegetation Workshop, No. 13. pp. 142-159.
- ❖ Demetry, Athena; Manley, Jeff. 2001. Ecological Restoration in a Giant Sequoia Grove. Crossing Boundaries in Park Management: Proceedings of the 11th Conference on Research and Resource Management in Parks and on Public Lands. pp. 125-134.