The sequoia workgroup

Critical vulnerabilities

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-- High severity fire.

-- Fire exclusion.

-- Pollution (ozone), non-native invasives & pathogens, direct human impacts (trampling, etc).

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Adaptive capacity:
-- Genetic diversity.
-- Migration potential.
-- Other management actions.

Current objectives

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-- DETAILS: Sequoia regeneration, natural hydrology, historical fire regime, education & recreation, cultural & social values, protect iconic sequoia trees.

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-- LONG-TERM: (1) Establish new sequoia groves in other parts of the Sierra Nevada bioregion. (2) Preserve genetic biodiversity.

Strategies & tools: Manage for persistence (short-term)

-- RESIST CHANGE:

Irrigate groves.

Plant sequoia seedlings in current groves to ensure adequate regeneration.

Install strategically placed fuel breaks.

Maintain in-situ and ex-situ “gene banks”.

Control invasives and insect outbreaks.

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-- INCREASE RESILIENCE:

Prescribed fire.

Mechanical thinning.

Allow selected wildfires to burn.

Re-establish natural hydrology where impacted.

Eliminate grazing.

Early detection and control of non-native invasives.

Reduce other stressors (e.g. pollution, soil compaction, etc.).

Strategies & tools: Manage for change (long-term)

-- FACILITATE TRANSFORMATION:

Plant in new areas with suitable soil & future climate

Collect seed and/or establish living seed banks with known genetic make-up. (Understand genetic and functional diversity of sequoia.)

Plant with drought resistant genotypes.

(Inter-agency cooperation and management.)

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-- EXTREME EVENTS

Plan for large-scale high-severity fire or vegetation die-off:

Learn from other places – how they responded, what worked well, and prepare for these events ahead of time.

Prepare for (incl. compliance) pre-planned but location-flexible experiment with erosion controls & planting plan to test more adapted genotypes and species, etc.

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- Budget
- Public perception
- Agency cultures
- Competing laws & regulations (e.g. endangered species, wilderness)
- Access
- Scale of the task & capacity

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-- EDUCATION & INTERPRETATION:

- Budget
- Creating a unified message

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- Collaboration/Partnerships: Everyone, everywhere