Restoration of meadows in the Sierra
Halstead Meadow, Sequoia National Park

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Halstead Meadow, Sequoia NP

5-10% slope

2006
Reference native plant community dominated by dense *Scirpus microcarpus*
Topsoil and peat

Forest soil layer

Sand, silt, and organic layers

8,960 years b.p. pine stump ->

Paleo-soil

<-1,200 years b.p. ash layer

10,000 years of deposition

East Meadow
Aspen Valley
Yosemite
S.H. Wood 1975
Cattle grazing in Sequoia-Kings Canyon National Park, 1941

Sugarloaf Meadow, Kings Cyn. NP
Cattle grazing in Sequoia-Kings Canyon National Park, 1941

Upper Paradise Meadow, Kings Cyn. NP

Sugarloaf Meadow, Kings Cyn. NP
Gully present during 1929 pre-road survey
Restored geomorphology and soil processes
Added wood chips to reduce compaction
Average soil compaction in top 20 cm (MPa)

Transplants
- △ Height
- ○ Width

Reference
- ▲ Height

Plant height or width (cm)

Average soil compaction in top 20 cm (MPa)
By restoring geomorphology we restored hydrology
Planted native *Scirpus microcarpus*
Thank you
Soil organic matter (cm³ / cm³)

Average soil compaction in top 20 cm (MPa)

Wood chip addition test trench
Halstead Meadow reference (ave. and min. to max.)
Average plant spread in compacted gully fill

37 cm
Predicted plant spread if gully fill had natural level of OM (64% OM by vol)

~2x vegetated area