

# The Natural Giant Sequoia (*Sequoiadendron Giganteum*) Groves of the Sierra Nevada, California-An Updated Annotated List

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**Abstract:** Giant sequoias naturally occur in the Sierra Nevada, California, in 65 groves, described in an annotated list. The grove list significantly differs from prior published giant sequoia grove lists, primarily as a result of more consistent application of objective criteria of geographic isolation and minimum giant sequoia group size in grove identification. The grove list also reflects significant gains in knowledge of giant sequoia natural distributions during recent years.

Giant sequoia (*Sequoiadendron giganteum*) naturally occurs in the Sierra Nevada, California, primarily in isolated concentrations traditionally known as groves. Sequoia locations are most easily described by reference to named groves, though a relatively few giant sequoias occur apart from recognized groves, in the same localities.

Significant additional giant sequoia location research since the early 1970's makes the following updated annotated grove list appropriate. The list clarifies, corrects, and adds new information to current grove lists. The list was also prepared more consistently on the basis of objective criteria of geographic isolation and minimum giant sequoia group size.

"Grove" is not a term of art. "The concept of the grove has little biological reality," observed Rundel, the most frequently cited grove list authority in recent decades (Rundel 1972). I concur with Rundel's recognition that it is difficult to conceive of a satisfactory operational definition of a grove, when one considers the locally complex patterns of giant sequoia distribution. The following grove list, like any other, is partially subjective.

The grove list should not be considered as a final definitive list, considering the still incomplete state of giant sequoia inventories. As of January 1994, possible giant sequoia locations have not been fully surveyed in some remote areas of Sequoia National Forest. It is possible that further study could lead to recognition of a new grove. But the list better reflects the current state of knowledge than prior grove lists.

Groves have been named by Caucasians since the mid-19th century. Often several names have been used for the same grove or for different sections of the same grove. (Rundel [1972] appended a catalog of multiple historical grove names that he excluded from his final list of grove

names.) In contrast, many groves became known by single, accepted names by the early 20th century. Sequoia National Park groves were comprehensively and systematically listed by the 1930's. However, comprehensive grove lists for the entire Sierra Nevada were unsystematic prior to 1969.

The first comprehensive and more systematic grove list for the entire Sierra Nevada was in Rundel (1969, 1972). Rundel's list was more closely based on geographic distinction than any prior list, and it reflected his scientific study of actual sequoia distribution. Rundel's list is the basis for the familiar post-1972 descriptions that giant sequoias occur in "75 groves." His grove list used historical tradition as the basis for some grove identifications, and he did not consistently apply an identification criterion of minimum sequoia group size.

Flint (1987) included a grove list which consolidated several contiguous giant sequoia concentrations which had been separately listed by Rundel under single grove names, producing a list more consistently based on geographic isolation. Flint's list highlighted that fewer than 75 groves had significant geographic separation. The following grove list adopts Flint's practice of consolidating contiguous giant sequoia distributions in grove identification.

In general, the updated grove list reflects the perspective that the list is best conceived as an effort to consistently identify and briefly describe the geographically distinct groves of significant giant sequoia group size, rather than as an exhaustive attempt to list every geographically distinct giant sequoia occurrence.

Several natural criteria are used to determine grove identity. The foremost criterion for separate identity is substantial distance isolation from other giant sequoia concentrations. Conversely, giant sequoia groups which are known to be essentially contiguous are always identified as a single grove. If sequoias grow beside one another, historical tradition, different owners, or an intervening political boundary do not make them farther apart.

In the absence of substantial distance isolation, other criteria were applied, such as watershed isolation and the subjective sense of the propriety of either distinction as separate groves or of identification as multiple units of a single grove (regarding isolated sequoia concentrations which are close to one another). Numerous groves have two or more separate but geographically close units of giant sequoia occurrence, such as when sequoia concentrations in moist drainages are separated by dryer divides without sequoias.

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The grove list was generally prepared in a manner that maintains the sense of a grove having noteworthy geographic distinctiveness and a minimum historic number of mature giant sequoias (e.g., more than 10). The only exceptions are Placer County Grove and Surprise Grove, which now have less than 10 mature sequoias, but which are sufficiently isolated from other groves to affirm their traditional identification as separate groves. This is a departure from prior grove lists which selectively identify several isolated, very small sequoia groups as groves, while inconsistently excluding numerous other comparable, isolated, small giant sequoia groups from grove identification.

Single giant sequoias and clusters of very few giant sequoias that are substantially isolated from larger giant sequoia aggregations are not identified as groves in the below list (except for Placer County and Surprise Groves). This exclusion covers some giant sequoia "outliers" that have been named as groves in the past, such as the very few giant sequoias in "Clough Cave Grove" and "Squirrel Creek Grove," as well as numerous isolated single giant sequoias or very small clusters of giant sequoias without names. If all isolated sequoias or tiny sequoia clusters, often separated from listed groves by more than 1,000 feet and/or drainage divides, were separately identified as groves, the total of listed groves would probably exceed 100. By that practice, the "grove" concept would lose its usual informative meaning of a group of giant sequoias that is particularly noteworthy because of location and grove size.

The minimum group size criterion is for the purpose of making the most useful grove list, and it should not be interpreted as a depreciation of the value of giant sequoias outside of listed groves.

Sequoias have also been planted singly or in groups in numerous locations outside of the natural groves. Some of these sites have acquired "grove" names. The following grove list excludes sites where sequoias occur only as a result of planting.

Some well-known multiple names for single groves are retained in the list either by hyphenating grove names, or in description of a grove unit or section. It would probably be more confusing than useful to not incorporate the established use of some familiar multiple grove names. However, the revised name usage in the below grove list avoids giving the misimpression that a single grove is more than one grove.

## Giant Sequoia Grove List

Notes regarding grove annotations: Grove location descriptions by surveyed township, range, and section number refer to the recognized area of sequoia aggregation known as the grove. Surveyed sections with sequoia outliers only, or a tiny edge of a larger grove are not all described. The form of describing location by land survey description follows the practice of Rundel (1969 and 1972), though the location descriptions have been significantly amended as a result of better grove location information in recent times.

Only the primary land ownerships and grove watersheds are described. Described private ownership is as of January 1994.

Groves are listed alphabetically within four regional groups, except for the groves north of the Kings River, which are listed in order from north to south.

### A. Groves north of the Kings River

1. Placer County Grove: T. 14 N., R. 13 E., Sec. 19; Middle Fork of the American River watershed; Tahoe National Forest; the tiny, most northern grove.
2. North Calaveras Grove: T. 5 N, R. 15 E., Sec. 14, 15, 22; Big Trees Creek, Calaveras Big Trees State Park.
3. South Calaveras Grove: T. 5 N., R. 16 E., Sec. 28, 29, 30, 31, 32, 33; North Fork of the Stanislaus River watershed, Calaveras Big Trees State Park.
4. Merced Grove: T. 2 S., R. 19 E., Sec. 23; Moss Creek, Yosemite National Park.
5. Tuolumne Grove: T. 2 S., R. 20 E., Sec. 7, 18; North Crane Creek, Yosemite National Park.
6. Mariposa Grove: T. 5 S., R. 22 E., Sec. 6, 7, 8, 18; headwaters of Big Creek, Yosemite National Park.
7. Nelder Grove: T. 6 S., R. 22 E., Sec. 4, 5, 6, 7, 8; California and Nelder Creeks, Sierra National Forest; a few miles south of Mariposa Grove.
8. McKinley Grove: T. 10 S., R. 26 E., Sec. 26, 35 Dinkey Creek watershed, Sierra National Forest.

### B. Groves south of the Kings River in the Kings River watershed

9. Agnew Grove: T. 13 S., R. 29 E., Sec. 13; Rattlesnake Creek, Hume Ranger District (Monarch Wilderness), Sequoia National Forest.
10. Bearskin Grove: T. 13 S., R. 28 E., Sec. 34, 35; Bearskin Creek and Tenmile Creek watershed, Hume Ranger District, Sequoia National Forest.
11. Big Stump Grove: T. 14 S., R. 28 E., Sec. 7, 8, 18; Mill Creek, Kings Canyon National Park and Sequoia National Forest.
12. Boulder Creek Grove: T. 13 S., R. 29 E., Sec. 26, 35; near Boulder Creek, Hume Ranger District, Sequoia National Forest.
13. Cherry Gap Grove: T. 13 S., R. 28 E., Sec. 19; Mill Flat Creek headwaters just west of Cherry Gap, Hume Ranger District, Sequoia National Forest.
14. Converse Basin Grove: T. 13 S., R. 28 E., Sec. 4, 5, 6, 7, 8, 17, 18; T. 13 S., R. 27 E., Sec. 1, 2, 11, 12, 13; Converse, Cabin, and Verplank Creeks, Hume Ranger District, Sequoia National Forest.
15. Deer Meadow Grove: T. 13 S., R. 29 E., Sec. 24; Boulder Creek, Hume Ranger District, Sequoia National Forest.
16. Evans Grove: T. 13 S., R. 29 E., Sec. 9, 15, 16, 17, 21, 22; Redwood, Windy Gulch, and Evans Creeks, Hume Ranger District, Sequoia National Forest.

17. Grant Grove: T. 13 S., R. 27 E., Sec. 36; T. 13 S., R. 28 E., Sec. 31; Mill Flat Creek watershed, Kings Canyon National Park and Sequoia National Forest.
18. Indian Basin Grove: T. 13 S., R. 28 E., Sec. 4, 8, 9, 16; Hume Ranger District, Sequoia National Forest.
19. Kennedy Grove: T. 13 S., R. 29 E., Sec. 22, 26, 27, 28; Kennedy Creek, Hume Ranger District, Sequoia National Forest.
20. Landslide Grove: T. 13 S., R. 29 E., Sec. 30, 31; Landslide Creek; Hume Ranger District, Sequoia National Forest.
21. Little Boulder Creek Grove: T. 13 S., R. 29 E., Sec. 27, 34; Little Boulder Creek, Hume Ranger District, Sequoia National Forest.
22. Lockwood Grove: T. 13 S., R. 29 E., Sec. 7, 8, 17; Lockwood and Barton Flat Creeks, Hume Ranger District, Sequoia National Forest.
23. Sequoia Creek Grove: T. 14 S., R. 28 E., Sec. 6; T. 14 S., R. 27 E., Sec. 1; Sequoia Creek, Kings Canyon National Park.

### C. Kaweah River watershed groves

24. Atwell-East Fork Grove: T. 17 S., R. 30 E., Sec. 1, 2, 9, 10, 11, 12, 13, 14, 15, 24; T. 17 S., R. 31 E., Sec. 7, 18; East Fork of the Kaweah River watershed, Sequoia National Park. The Atwell unit of the grove has the highest elevation giant sequoia.
  - Atwell unit (generally north of the East Fork of the Kaweah River)
  - East Fork units (generally south of the East Fork of the Kaweah River)
  - Redwood Creek unit (along Redwood Creek, north of the East Fork of the Kaweah River)
25. Board Camp Grove: T. 18 S., R. 30 E., Sec. 9, 10, 15, 16; just east of Homers Nose Grove north of the South Fork of the Kaweah River, Sequoia National Park.
26. Cahoon Creek Grove: T. 17 S., R. 30 E., Sec. 27, 34; Cahoon Creek, Sequoia National Park.
27. Case Mountain Grove: T. 17 S., R. 29 E., Sec. 26, 27, 35, 36; Salt Creek, Bureau of Land Management land just west of Sequoia National Park.
28. Castle Creek Grove: T. 16 S., R. 30 E., Sec. 22, 23, 24, 26, 27; Castle Creek, Sequoia National Park.
29. Coffeepot Canyon Grove: T. 17 S., R. 30 E., Sec. 32; Coffeepot Canyon Creek, Sequoia National Park.
30. Devils Canyon Grove: T. 18 S., R. 30 E., Sec. 31; Devil's Canyon Creek, Sequoia National Park.
31. Eden Creek Grove: T. 17 S., R. 30 E., Sec. 28, 32, 33; T. 18 S., R. 30 E., Sec. 5; Eden Creek, Sequoia National Park.
32. Garfield-Dillonwood Grove (in the watersheds of both the Kaweah and Tule Rivers): T. 18 S., R. 30 E., Sec. 20, 21, 22, 28, 29, 33, 34; T. 19 S., R. 30 E., Sec. 1, 2, 3, 4, 9, 10, 11; Sequoia National Park, Sequoia National Forest, and substantial private ownership in the Dillonwood section.
  - Garfield section (within Sequoia National Park)
  - Dillonwood section (south of Sequoia National Park in the Tule River watershed)
33. Giant Forest: T. 15 S., R. 29 E., Sec. 36; T. 15 S., R. 30 E., Sec. 31, 32, 33; T. 16 S., R. 29 E., Sec. 1, 12; T. 16 S., R. 30 E., Sec. 4, 5, 6, 7, 8; Giant Forest plateau, Sequoia National Park.
34. Homers Nose Grove: T. 18 S., R. 30 E., Sec. 9, 16; North of the South Fork of the Kaweah River, west of Board Camp Grove, Sequoia National Park.
35. Horse Creek Grove: T. 17 S., R. 30 E., Sec. 26, 27, 35; Horse Creek, Sequoia National Park.
36. Lost Grove: T. 15 S., R. 29 E., Sec. 3, 4; Dorst Creek headwaters, Sequoia National Park.
37. Muir Grove: T. 15 S., R. 29 E., Sec. 8, 9, 16, 17; North Fork of the Kaweah River watershed, Sequoia National Park.
38. New Oriole Grove: T. 17 S., R. 30 E., Sec. 17; just south of Oriole Grove, Sequoia National Park.
39. Oriole Grove: T. 17 S., R. 30 E., Sec. 4, 5, 8, 9; Squirrel Creek, Sequoia National Park.
40. Pine Ridge Grove: T. 15 S., R. 29 E., Sec. 17, 18; northwest of Pine Ridge, North Fork of the Kaweah River watershed, Sequoia National Park.
41. Redwood Meadow Grove: T. 16 S., R. 30 E., Sec. 13; T. 16 S., R. 31 E., Sec. 17, 18, 19, 20; Middle Fork of the Kaweah River watershed, Sequoia National Park.
42. Redwood Mountain Grove: T. 14 S., R. 28 E., Sec. 10, 13, 14, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28; Redwood, Eshom, and Pierce Creeks, Kings Canyon National Park, Sequoia National Forest, and the University of California's Whitaker Forest section; generally considered to be the largest grove in area and the grove with the largest surviving total population of mature and old-growth sequoias.
43. Skagway Grove: T. 15 S., R. 29 E., Sec. 16, 17, 20; north of Pine Ridge, North Fork of the Kaweah River watershed, Sequoia National Park.
44. South Fork Grove: T. 18 S., R. 30 E., Sec. 14, 15, 16, 21, 22; South Fork of the Kaweah River, Sequoia National Park.
45. Surprise Grove: T. 18 S., R. 30 E., Sec. 7; Bennett Creek, Sequoia National Park.
46. Suwanee Grove: T. 15 S., R. 29 E., Sec. 26, 35; just west of Suwanee Creek, Sequoia National Park.

### D. The most southern groves (watersheds of the Tule and Kern Rivers and Deer Creek)

47. Alder Creek Grove: T. 20 S., R. 31 E., Sec. 8, 9, 16, 17; South Fork Alder Creek, Sequoia National Forest and substantial private ownership.
48. Black Mountain Grove: T. 21 S., R. 31 E., Sec. 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21; T. 21 S., R. 30 E., Sec. 1, 12; T. 20 S., R. 31 E., Sec. 31; Wilson, Deadman, Long Canyon and Miner Creeks, Sequoia National

- Forest, Tule River Indian Reservation, and substantial private ownership.
49. Burro Creek Grove: T. 19 S., R. 31 E., Sec. 28, 32 (probable but unconfirmed), 33; Burro Creek, Sequoia National Forest.
  50. Cunningham Grove: T. 22 S., R. 32 E., Sec. 30, 31; Long Meadow Creek, Sequoia National Forest.
  51. Deer Creek Grove: T. 23 S., R. 31 E., Sec. 2, 3; Deer Creek, Sequoia National Forest; the most southern grove.
  52. Dennison Grove: T. 18 S., R. 30 E., Sec. 31; Kramer Creek, southwest corner of Sequoia National Park.
  53. Freeman Creek Grove: T. 20 S., R. 32 E., Sec. 28, 29, 32, 33, 34, 35; T. 21 S., R. 32 E., Sec. 2, 3; Freeman Creek, Sequoia National Forest; the most eastern grove.
  54. Long Meadow Grove: T. 22 S., R. 31 E., Sec. 26, 27, 35; Sequoia National Forest.
  55. Maggie Mountain Grove: T. 19 S., R. 30 E., Sec. 20; Galena Creek, Sequoia National Forest.
  56. McIntyre Grove: T. 20 S., R. 31 E., Sec. 34, 35, 36; T. 21 S., R. 32 E., Sec. 6, 7; T. 21 S., R. 31 E., Sec. 1, 2; Middle Fork of the Tule River watershed, Sequoia National Forest.
    - McIntyre unit (Middle Fork of the Tule River)
    - Carr Wilson unit (on Bear Creek)
  57. Mountain Home Grove: T. 19 S., R. 30 E., Sec. 13, 25, 26, 27, 35, 36; T. 19 S., R. 31 E., Sec. 7, 13, 18, 19, 30, 31; T. 20 S., R. 30 E., Sec. 1, 2, 12; T. 20 S., R. 31 E., Sec. 6; on the Mountain Home plateau and in the canyon of the North Fork of the Middle Fork (also known as the Wishon Fork) of the Tule River, Mountain Home State Forest and Sequoia National Forest.
  58. North Cold Spring Grove: T. 22 S., R. 30 E., Sec. 36; near North Cold Spring Peak, west of Parker Peak Grove, Tule River Indian Reservation.
  59. Packsaddle Grove: T. 23 S., R. 31 E., Sec. 13, 14, 23, 24; Packsaddle Creek, Sequoia National Forest.
  60. Parker Peak Grove: T. 22 S., R. 31 E., Sec. 29, 30, 31, 32; Redwood Creek, Tule River Indian Reservation.
  61. Peyrone Grove: T. 21 S., R. 31 E., Sec. 34; T. 22 S., R. 31 E., Sec. 2, 3, 4; Windy Creek watershed, Sequoia National Forest and Tule River Indian Reservation.
  62. South Peyrone Grove: T. 22 S., R. 31 E., Sec. 10; Cedar Creek watershed, Sequoia National Forest.
  63. Red Hill Grove: T. 21 S., R. 31 E., Sec. 22, 23, 26, 27, 28; South Fork of the Tule River watershed, Sequoia National Forest, Tule River Indian Reservation and private owners.
  64. Silver Creek Grove: T. 19 S., R. 31 E., Sec. 29; Silver Creek, Mountain Home State Forest and Sequoia National Forest.
  65. Starvation Creek Grove: T. 23 S., R. 31 E., Sec. 9, 15, 16; Starvation Creek (Deer Creek watershed), Sequoia National Forest.

## Supplementary Notes

1. Differences between this grove list and the "75 groves" list in Rundel (1972) are described below. Grove names in the updated list follow Rundel, unless otherwise explained. Grove names in quotes below are Rundel grove identifications not followed in the updated grove list.
 

Groves listed by Rundel that are omitted:

  - "Abbott Creek Grove" (At present only two isolated sequoia clusters are known to occur in the Abbott Creek watershed, both of which are too small to qualify as a grove.)
  - "Squirrel Creek Grove" (This refers to a few isolated outlier sequoias, too few in number to qualify as a grove.)
  - "Tenmile Grove" (No sequoias are known to naturally exist in Rundel's described section location apart from Bearskin Grove. "Tenmile Grove" is apparently nonexistent.)

Added grove not listed by Rundel:

  - South Peyrone Grove (See note 3, below.)

Consolidation of Rundel grove identifications (14 groves named by Rundel are identified as 6 groves on the updated list):

  - Contiguous "Atwell," "East Fork," and "Redwood Creek" Groves are named Atwell-East Fork Grove.
  - Contiguous "Belknap," "McIntyre," and "Wheel Meadow" Groves are named McIntyre Grove.
  - "Burton Grove" is considered to be an included part of Kennedy Grove. (There is not a separate grove unit west of Kennedy Grove in the area sometimes mapped as "Burton Grove.")
  - Contiguous "Garfield" and "Dillonwood" groves are named Garfield-Dillonwood Grove.
  - "Middle Tule Grove" is a contiguous part of Mountain Home Grove.
  - "Powderhorn Grove" is a distinct grove unit included in Starvation Creek Grove. (This unit is in the northwest quarter of T. 23 S., R. 31 E., Sec. 15. The unit is west of the sometimes mapped "Powderhorn Grove" location in Sec. 14 and 15 near Powderhorn Meadow, which has only a few isolated sequoias.)

Renamed groves, otherwise listed by Rundel (not a consolidation of Rundel grove identifications):

  - "Putnam-Francis Grove" is renamed Board Camp Grove (to conform to National Park Service name usage)
  - "Case Mountain Groves," "Castle Creek Groves," and "Redwood Meadow Groves" are each described as a single grove in the updated list (with the recognition that they contain multiple grove units).
2. Groves which include two or more geographically distinct but close units include Agnew, Atwell-East Fork,

Bearskin, Black Mountain, Case Mountain, Castle Creek, Kennedy, Lockwood, Mariposa, McIntyre, Nelder, Peyrone, Pine Ridge, Redwood Meadow, and Starvation Creek Groves, as well as probably others.

3. South Peyrone Grove is on Sequoia National Forest land in the Cedar Creek watershed, east of the Tule River Indian Reservation, about one mile south of Peyrone Grove. The author's identification of this grove in the June 1992 version of this paper was the first known identification of this grove on a publicized grove list. The grove name was chosen by the author. It is conceivable that official sources might adopt a different grove name in the future.
4. The grove list reflects numerous interpretive decisions on grove identification concerning giant sequoia concentrations which are geographically distinct enough to suggest a possible separate grove identity, but close enough in distance to other giant sequoia concentrations to be considered as separate units of a single grove. Some of the reasoning behind these decisions is described below.

## Northern and Kings River Watershed Groves

Agnew and Deer Meadow Groves: These very close groves are distinguished because they are in separate drainages, separated by a well-defined ridge.

Big Stump and Sequoia Creek Groves: These very close groves are distinguished because they are in separate drainages, separated by a well-defined ridge.

Evans and Kennedy Groves: These groves are relatively close in distance, but they were identified as separate groves because there is marked terrain change between the two giant sequoia groups; they are in separate watersheds; and the nearest Kennedy Grove sequoias are a tiny northern grove unit (rather than the main grove unit).

Evans and Lockwood Groves: These groves are close in distance, but they were distinguished as separate groves because there is a ridge between the groves; they are in separate watersheds; and they have previously been consistently described as separate groves.

Nelder Grove: This is a particularly problematic grove identification. The grove has four distinct units, two of which are about .5 mile from the nearest other unit. This grove could reasonably be considered as three groves. I identify them as units of a single grove because of their relative proximity in the context of the groves north of the Kings River, because one of the more isolated units is very small, and in recognition of the consistent tradition of recognizing a single Nelder Grove.

## Groves South of the Kings River Watershed

Atwell-East Fork Grove: The traditionally distinguished "Atwell" and "East Fork" Groves were consolidated because lobes of these major giant sequoia grove areas extend to within a few hundred feet of each other in the same drainage. Similarly, the previously distinguished "Redwood Creek Grove" was consolidated into Atwell-East Fork Grove because part of that giant sequoia group is probably less than 500 feet from giant sequoias of the "Atwell" unit of the grove which extend into the eastern edge of the Redwood Creek drainage.

Case Mountain Grove: The grove has three distinct clusters of surviving old-growth sequoias, separated by distances of about .6 to .9 miles from the nearest cluster. However, these are considered part of a single grove because scattered small groups of sequoias reportedly occurred in intermediate small drainages before 1950's sequoia logging. Since then intermediate private land areas have also been extensively planted with sequoias, which disguises the natural sequoia regeneration which probably occurred after logging. Originally, the grove had numerous scattered stringer units. None was so remote from others as to warrant separate grove identification.

Homers Nose and Board Camp Groves: These very close groves are distinguished because they are in separate watersheds, separated by a ridge.

Horse Creek and Cahoon Creek Groves: These very close groves are distinguished because of a well-defined ridge between them.

McIntyre Grove: The distinct "Carr Wilson Grove" unit was identified as part of large McIntyre Grove because it is downstream in the same drainage from some sequoias of the McIntyre unit.

Peyrone Grove: This grove has several units, including two main units that are about .4 miles apart and in separate drainages. However, the units are identified as one grove because there are scattered sequoias between them.

Redwood Meadow Grove: This grove contains two isolated units of significant size, in separate drainages about .3 miles apart, as well as a third distinct unit which is too small to identify as a separate grove. The units were consolidated as a single grove because the area is remote from other groves; the units are relatively close; and the second largest unit (sometimes described as "Little Redwood Meadow Grove") is less than 35 acres.

Starvation Creek Grove: This grove has a main unit along Starvation Creek and a unit about .3 miles away (sometimes described as "Powderhorn Grove"). These units were considered to be a single grove because of their proximity, and because part of the eastern unit is in the same watershed as the Starvation Creek unit.

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## References

- Flint, Wendell D. 1987. To find the biggest tree. Three Rivers: Sequoia Natural History Association; 116 p.
- Hammon, Jensen, Wallen and Associates. 1964, 1970, 1975, 1976. Sequoia tree inventory. Hammon, Jensen and Wallen Mapping and Forestry Service, Oakland, CA. Report to the National Park Service. Unpublished reports and maps concerning giant sequoia inventories in Sequoia and Kings Canyon National Parks, on file at Ash Mountain offices, Sequoia National Park.
- Rundel, Philip W. 1969. The distribution and ecology of the giant sequoia ecosystem in the Sierra Nevada, California. Durham, NC: Duke University; 204 p. Ph.D. dissertation.
- Rundel, Philip W. 1972. An annotated checklist of the groves of *Sequoiadendron Giganteum* in the Sierra Nevada, California. Madrono 21 (5):319-328.
- Western Timber Service, Inc. 1970. Sequoia tree inventory. Western Timber Service, Inc., Arcata, CA. Report to the National Park Service. Unpublished reports and maps concerning giant sequoia inventories in Sequoia and Kings Canyon National Parks, on file at Ash Mountain offices, Sequoia National Park.