

#### 4.17) Repeat Photography Project - Sequoia Kings Canyon National Parks

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Sequoia-Kings Canyon National Parks

##### FOCUS

This project attempts to reconstruct historical changes in southern Sierran plant communities over the past 125 years. The general study area for the repeat photography project encompasses foothill and forest plant communities from the Stanislaus River south to the Kern River. Although the project continues to comprise this large geographic area we have established three foci in order to better facilitate completion of a useable project in two field seasons. The focus projects are as follows:

##### *Kings Canyon – Yosemite Valley Comparison*

Several books and articles have been written about the vegetation changes that have occurred in Yosemite Valley since Euroamerican settlement. Repeat photography projects have made a convincing case that the Yosemite Valley floor is converting from low density forest with large open meadows to a more dense forest with meadow encroachment by coniferous species. Fire exclusion, among other factors, is the apparent cause of this change. We would like to determine if the same has occurred in the Kings Canyon area. Yosemite and Kings Canyon have similar geological as well as human histories and a comparison of vegetation change in the two areas could provide new information for management. The earliest photographs that we have found of the Kings Canyon and Tehipite Dome area are from 1875-1893. These photos are only about 15 years after Euroamericans first began making an impact in this part of the southern Sierra. The vegetation conditions shown in these photos may therefore be as close to pre-Euroamerican conditions as we are likely to determine from photographs.

##### *Chaparral-Conifer Ecotone*

The foothill regions of the southern Sierra have received less attention from plant ecologists than the Mixed Conifer ecosystems of the range. Fire suppression and climatic change may be altering chaparral vegetation. We will use photographs from the 1880s-1900 to determine if the chaparral/mixed conifer ecotone has shifted over the past 100-120 years. Mining, railroad and the Kaweah Colony photographs from these dates give



**Figure 4.17-1.** Repeat photos of Blossom Peak, Three Rivers, California. View from west in 1890 (left) and 2000 (right).



**Figure 4.17-2.** Repeat photo of Confederate Group in Mariposa Grove showing increased understory density in 1970 and reduced density by 2000 after mechanical and prescribed fire treatments.

clear views of foothill vegetation from areas west of Yosemite National Park to those west of Sequoia National Park . One photograph from a family album clearly shows the chaparral/pine ecotone near Mineral King taken in July 1900. A preliminary comparison of a photograph of Blossom Peak in Three Rivers, CA from 1889 and a photograph taken in November 1999 of the same view shows a type conversion from chaparral to grassland on the north-west slope of the mountain.

### *Big Trees Through the Ages*

There is an abundance of photographs of the famous Big Trees of both Yosemite and Sequoia Kings Canyon. Due to the importance of Giant Sequoia Grove restoration we will use a sample of these photographs to determine understory, and vegetation conditions in general, around the Big Trees at the dawn of Euroamerican settlement. The earliest photographs are from 1860 of the Grizzly Giant in the Mariposa Grove of Yosemite National Park. The earliest photographs of the General Grant and General Sherman of Sequoia Kings Canyon National Parks are from the 1880s. Other photos of the Giant Forest and the Big Tree forests in Yosemite will also be used.

## **ARCHIVAL VISITS and PHOTOGRAPH PURCHASES**

To date, approximately 80 photographs have been purchased for use in this project Finding old photos of Sequoia Kings Canyon National Park was facilitated by a card catalogue by John Vankat in 1970 which held information on all the known pre-1900 to 1910 photos of the Parks in public collections in 1970. This card catalogue has been entered into a Microsoft Access database and will be made available to future researchers.

Since October, Monica Bueno has visited many archives to view photo collections and make purchases. The archives visited include:

The Bancroft Library at UC Berkeley  
The USGS photographic library in Denver, CO  
The Oakland Museum of Art  
The California Historical Society Archive  
The Fresno City and County Historical Society Archive  
The Tulare Historical Society Archive  
The Tulare County History Museum  
The Tulare County Free Library – California History Room  
The Fresno County Free Library – California History Room  
The California State Library – California History Room  
The Yosemite National Park Archive  
The Sequoia Kings Canyon National Park Archive

There are many more public collections to view but we are beginning to focus attention on private collections. Monica will pursue contacts for private collections throughout April and May and the remainder of the project.

Several relocations of original photo sites have been made in the Giant Forest and the foothills near the Kaweah Colony settlements. To properly match the original photo with a repeat photo the exact location of the original photographer is critical as is the season and time of day of the original. Relocation of the photographer's location is difficult for some photographs because of road and building construction or other severe changes to the area. We are working with archivists to find as much information about each photo so a proper repeat photograph will be taken.

#### **SUMMER 2000 FIELD SEASON**

Monica is currently in the process of preparing for the summer 2000 field season. Since most of the mixed-conifer forest photographs were taken in June, July and August, these will be the busiest months for field work (Foothill views appear to be from late fall and winter and will be relocated during those seasons). An SCA volunteer position was advertised in February and several applications have been received. A qualified volunteer will be chosen soon to accompany Monica during the summer field season. The focus areas for the summer will be Kings Canyon, the Tehipite Valley and the Giant Forest area. Mineral King and the Kearsarge Lakes area will also be visited as well as the Big Tree Groves of Yosemite.