

**OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION**

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August 23, 2004

Dr. Stephanie Toothman  
National Park Service  
Pacific West Region  
909 First Street  
Seattle, Washington 98104-4159

Dear Dr. Toothman:

Thank you for the opportunity to comment on the National Register Multiple Property nomination for Yosemite National Park. I concur that the properties identified and evaluated in the nomination do constitute a coherent group of geographically dispersed resources that are eligible for listing in the National Register. The nomination does an excellent job of defining separate, but related contexts that make clear the significance of the individual resources, as well as the reasons that they collectively constitute a multiple property. The inclusion of a number of the park's less elaborate, high altitude resources is particularly noteworthy. The context statements synthesize a large amount of historic documentation in a clear and concise manner and the descriptive material that is provided for the individual resources or resource groupings is excellent.

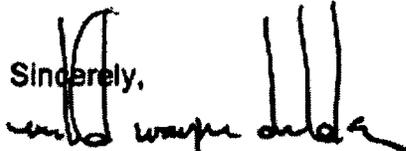
We concur in all of your findings regarding the resources enumerated in the multiple property nomination. We agree that the following properties are eligible for the National Register as a part of a multiple property.

Lake Vernon Cabin Building #2450  
May Lake High Sierra Camp Historic District  
Hetch Hetchy Comfort Station Building #2104  
Henness Ridge Fire Lookout Building #5300  
The Golden Crown Mine  
Glen Aulin Sierra Camp Historic District  
Chinquapin Historic District  
Buck Creek Cabin Building #4800  
Snow Flat Cabin #Building #3501  
Snow Creek Cabin Building #3450  
Sachse Springs Cabin Building #2452  
Ostrander Ski Hut Building #5110  
Old Big Oak Flat Road  
New Big Oak Flat Road  
Merced Lake Ranger Station Building #3400  
Merced Lake High Sierra Camp Historic District

Wawona Tunnel  
Vogelsang High Sierra Camp Historic District  
Tuolumne Meadows High Sierra Camp Historic District

I have signed the application as commenting authority. If you have any questions, please call Gene Itogowa of my staff (916) 653-8936.

Sincerely,

A handwritten signature in black ink, appearing to read "Milford Wayne Donaldson". The signature is written in a cursive style with some vertical strokes.

Milford Wayne Donaldson  
State Historic Preservation Officer

Cc: Kimball Koch

**United States Department of the Interior  
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES  
REGISTRATION FORM**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

**1. Name of Property**

historic name Lake Vernon Cabin  
other names/site number Lake Vernon Snow Survey Shelter; Building # 2450

**2. Location**

street & number N/A not for publication   
city or town Yosemite National Park (YOSE) vicinity \_\_\_\_\_  
state California code CA county Tuolumne code 109 zip code 95389

**3. State/Federal Agency Certification**

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this \_\_\_ nomination \_\_\_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property \_\_\_ meets \_\_\_ does not meet the National Register Criteria. I recommend that this property be considered significant \_\_\_ nationally \_\_\_ statewide \_\_\_ locally. ( \_\_\_ See continuation sheet for additional comments.)

Signature of certifying official \_\_\_\_\_ Date \_\_\_\_\_

State or Federal agency and bureau \_\_\_\_\_

In my opinion, the property \_\_\_ meets \_\_\_ does not meet the National Register criteria. ( \_\_\_ See continuation sheet for additional comments.)

Signature of commenting or other official \_\_\_\_\_ Date \_\_\_\_\_

State or Federal agency and bureau \_\_\_\_\_

**4. National Park Service Certification**

I, hereby certify that this property is:  
\_\_\_\_ entered in the National Register \_\_\_\_\_ Signature of Keeper \_\_\_\_\_ Date of Action \_\_\_\_\_  
\_\_\_\_ See continuation sheet.  
\_\_\_\_ determined eligible for the \_\_\_\_\_  
National Register  
\_\_\_\_ See continuation sheet.  
\_\_\_\_ determined not eligible for the \_\_\_\_\_  
National Register

Lake Vernon Cabin

Tuolumne, CA

Name of Property

County and State

\_\_\_\_ removed from the National Register

\_\_\_\_ other (explain): \_\_\_\_\_

**5. Classification**

**Ownership of Property**  
(Check as many as apply)

**Category of Property**  
(Check only one)

**Number of Resources within Property**  
(Do not include previously listed resources in the count)

- \_\_\_\_ private
- \_\_\_\_ public-local
- \_\_\_\_ public-State
- public-Federal

- building(s)
- \_\_\_\_ district
- \_\_\_\_ site
- \_\_\_\_ structure
- \_\_\_\_ object

Contributing	Noncontributing	
<u>1</u>	<u>0</u>	buildings
		sites
		structures
		objects
<u>1</u>	<u>0</u>	Total

**Name of related multiple property listing**  
(Enter "N/A" if property is not part of a multiple property listing.)  
Historic Resources of Yosemite National Park, California

**Number of contributing resources previously listed in the National Register**  
0

**6. Function or Use**

**Historic Functions**

(Enter categories from instructions)

GOVERNMENT/Public Works  
NPS Snow survey/patrol shelter cabin

**Current Functions**

(Enter categories from instructions)

GOVERNMENT/Government Office

**7. Description**

**Architectural Classification**

(Enter categories from instructions)

Other: NPS Rustic

**Materials**

(Enter categories from instructions)

foundation stone; wood

walls Wood – log

roof metal-iron

other \_\_\_\_\_

**Narrative Description**

(Describe the historic and current condition of the property on one or more continuation sheets.)

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## 8. Statement of Significance

### Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield, information important in prehistory or history.

### Areas of Significance

(Enter categories from instructions)

Architecture  
Conservation  
Science

### Period of Significance

1945

### Criteria Considerations

(Mark "X" in all the boxes that apply.)

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or a grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

### Significant Dates

1977

### Significant Person

(Complete if Criterion B is marked above)

N/A

### Cultural Affiliation

N/A

### Architect/Builder

City of San Francisco

### Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

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## 9. Major Bibliographical References

### Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

### Previous documentation on file (NPS)

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register

### Primary location of additional data

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University

Lake Vernon Cabin

Tuolumne, CA

Name of Property

County and State

designated a National Historic Landmark  
 recorded by Historic American Buildings Survey  
# \_\_\_\_\_  
 recorded by Historic American Engineering  
Record # \_\_\_\_\_

Other  
Name of repository:  
Yosemite National Park, California

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### 10. Geographical Data

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**Acreage of Property** Less than 1 acre

#### UTM References

(Place additional UTM references on a continuation sheet)

1	<u>11</u>	<u>261650</u>	<u>4211450</u>	3			
	Zone	Easting	Northing		Zone	Easting	Northing
2				4			

\_\_\_\_ See continuation sheet.

#### Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

The National Register boundary encompasses only the Lake Vernon cabin and its immediate environment.

#### Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

The boundary includes only the historically and architecturally significant snow survey cabin.

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### 11. Form Prepared By

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name/title Andy Kirk, Richard Coop, Charles Palmer

organization UNLV Public History date 3/8/04

street & number 4505 Maryland Parkway Box 455020 telephone (702)895-3544

city or town Las Vegas state NV zip code 89135-5020

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### Additional Documentation

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Submit the following items with the completed form:

#### Continuation Sheets

##### Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **sketch map** for historic districts and properties having large acreage or numerous resources.

##### Photographs

Representative **black and white photographs** of the property.

##### Additional items

(Check with the SHPO or FPO for any additional items)

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### Property Owner

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(Complete this item at the request of the SHPO or FPO.)

name \_\_\_\_\_  
street & number \_\_\_\_\_ telephone \_\_\_\_\_  
city or town \_\_\_\_\_ state \_\_\_\_\_ zip code \_\_\_\_\_

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**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is

Lake Vernon Cabin

Tuolumne, CA

Name of Property

County and State

required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reduction Project (1024-0018), Washington, DC 20503.

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Summary

The Lake Vernon snow survey shelter/patrol cabin is situated about four miles directly north of Hetch Hetchy Reservoir, northeast of Lake Vernon, on Jack Main Creek. Built by the city of San Francisco in the summer of 1945, the cabin has a log exterior and interior. The interior contains 1x4 tongue and groove floors and an unfinished ceiling open to the rafters. It retains integrity of location, setting, and materials.

General Description

The Lake Vernon cabin measures approximately fifteen by eighteen feet, with a floor plan oriented north-south. The structure has log floor framing on mortared rock piers, with a drylaid rock foundation wall between. Walls are six-to fourteen-inch-diameter horizontal unchinked logs with round notch joining at the corners. The log ends extend one foot to one foot six inches beyond the wall face. Some have deteriorated and have been recently cut back.

The corrugated steel gable roof extends about three feet beyond the south wall and is supported by vertical logs at the southeast and southwest comers. The logs rest on extensions of the east and west foundation walls. There are windows on both the west and east elevations, three over three lights with fixed sash.

The main 6½' x 3' door is a Dutch type of vertical eight-inch-wide planks on the south elevation. A smaller 3-foot-square winter access door is situated in the south elevation gable wall. The interior is a single room with a plank floor, open ceiling, and exposed log wall finish.

The Lake Vernon cabin is similar in construction to the Wilmer Lake shelter that was built the same year and heavily damaged during the 1985-86 winter. Both cabins, now owned by the National Park Service, were refurbished by maintenance crews in 1977.

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Significance

Property Type: Resources Associated with Settlement and Industry (1851-1951)  
Subtype: Exploration, Settlement, and Resource Exploitation  
Period of Significance: 1945

The Lake Vernon snow survey/patrol cabin is considered significant in conservation and architecture. Originally constructed for winter service in connection with the acquisition of hydrologic data along the Tuolumne and Merced River watersheds within Yosemite National Park, these cabins, located in isolated areas, served as shelters for personnel and as bases of operation for employees patrolling snow courses and for equipment maintenance. Built under various agreements with the state of California and city of San Francisco, the cabins were used during the summer seasons by National Park Service rangers patrolling the backcountry, serving as supply bases and shelters. They became increasingly important in that latter role, giving added flexibility to rangers in the wilderness who no longer had to carry quantities of dishes and bedding with them. The cabins continue to serve an important function as centers of backcountry maintenance and patrol activities.

Historical Context

Snow is the principal source of the water in the Western United States. Increasingly conflicting demands for water in the West have heightened public awareness for solid management decisions concerning water. Although the West's high mountain ranges hold a vast snowpack that provides 50-80 percent of the year's water supply, nature cannot reliably provide an uninterrupted, dependable supply of melt water to meet all of the downstream requirements. To manage the variable availability, reservoirs and canals have been constructed to ensure competing needs for agriculture, industry, and communities are coordinated. Successful water management, however, begins with a detailed knowledge of the primary source of water in the West: snow.

Snow survey studies and the scientific determination of water runoff were developed by Dr. James E. Church, a University of Nevada professor whose interest in weather led to the development of the methods and technology that, for the most part, are still used today. Dr. Church made his first ascent of Mount Rose in 1895, where, overlooking the Lake Tahoe basin, he contemplated the effect of orographic precipitation and snowmelt runoff as it relates to water supply. His subsequent journeys up the mountain between Reno and Lake Tahoe resulted in his establishment of the Summit Observatory for the purpose of collecting weather data and studying the effects of mountains and forests on snow conservation.

In 1909 Professor Church developed the Mount Rose Snow Sampler and Scale to determine the density and water content of snow. One year later, he laid out the first formal snow courses in the Lake Tahoe and Truckee River basins for the purpose of predicting water runoff for Nevada ranchers and farmers. Research also led to control of the water

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level at Lake Tahoe, where springtime runoff flooded occupants of the lake's shoreline. With proper and accurate predictions, the excess water could be released from the lake prior to snowmelt runoff, and the lake could be maintained at a constant level.

The State of California recognized this important source of information and, in cooperation with Dr. Church's staff, began to lay out snow courses in selected river basins in the central Sierra Nevada in 1917. This work was undertaken by the state's Department of Engineering, which conducted the surveys through 1923, when funding was discontinued.

High country snow surveys were also being conducted on a limited basis, in connection with patrol trips by park rangers, in Yosemite National Park, beginning in the mid-1920s. According to NPS Naturalist Carl Russell, a primary motivation for the snow surveys at that time were to estimate the opening date of high country roads and trails and predict the conditions of the waterfalls during the late summer and early fall. Surveys also helped park administrators predict the severity of fire conditions in the late summer and early fall. The need for scientific surveys became acute in the 1920s, when California's explosive growth made reliable and predictable water supplies essential. In 1926 the Park Service entered into an agreement with the Merced Irrigation District, which was interested in predicting runoff from its watersheds heading in the park. Because the MID had finished construction of its Exchequer Dam in 1926, the Merced River fed directly into the MID's reservoir on the eastern edge of the San Joaquin Valley. In 1926 a snow course was installed at Dana Meadow. The Merced Irrigation District donated money in 1927 to build a patrol cabin at Merced Lake, fourteen miles above Yosemite Valley, to aid in snow survey activities. That cabin still stands, slightly modified, and is still in use as a ranger patrol cabin.

The state legislature appropriated funds in 1929 enabling the Division of Water Resources, the successor to the Department of Engineering, to organize a California Cooperative Snow Surveys program with the local agencies that had previously been involved in snow survey, and which, in some cases, had continued the survey program after the state ran out of funding for the project in 1923. The DWR established 150 snow courses in 1929 throughout the Sierra for the anticipated cooperative program to begin in January 1930. The DWR supplied funding for equipment, for construction of shelter cabins, and in some cases, for personnel to conduct the surveys. The agencies included local municipalities, irrigation districts, public utility companies, and state and federal agencies, including the National Park Service.

Most of the Sierra Nevada Mountains' snow measurements are conducted by the California Department of Water Resources (CDWR) Cooperative Snow Survey Department, which has been formally monitoring winter snow conditions since 1930, longer than any other such program in the Western United States. In 1931 the state appropriated \$600 for the construction of a snow survey cabin at Buck Camp, in the southwest portion of Yosemite National Park. The plans were prepared by John Wosky, Landscape Architect and Field Architect for Yosemite, and

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the cabin was completed and ready for occupation by January 1, 1932. An old logging cabin, built in 1916 at Deer Camp, was also renovated for use in snow surveys. The Buck Camp cabin is still used during the summer for patrol, and is in very good condition. The cabin at Deer Camp is no longer standing.

Due to the Great Depression of the 1930s, funding for snow surveys was unavailable for the years 1934-35. However, the cooperating agencies continued to make surveys using state-owned equipment that remained in the field, and the disruption was not as great as anticipated. In 1934, a particularly severe drought throughout the West increased demands by farmers for better streamflow predictions for crop irrigation. Other users that counted on water for industry, power generation and municipal/domestic use also urged for reliable water predictions. In 1935, Congress passed legislation creating a federal snow survey and water supply forecasting program for the West under the direction of the Bureau of Agricultural Engineering in the Department of Agriculture. The California snow survey program remained independent of the federal program, however, with the growing importance of water prediction, the California legislature was again able to appropriate funds for snow survey in 1936. There has been no subsequent interruption in survey activities.

In 1939, the federal snow survey program was transferred to the Soil Conservation Service (SCS); this bureau, now known as the Natural Resources Conservation Service (NRCS) continues to direct a cooperative federal, state, and private snow survey program. The construction of snow survey cabins in Yosemite resumed in the 1940s, with the erection of cabins at Lake Vernon and Wilmer Lake in 1945 and Sachse Springs in 1947, all constructed by the city of San Francisco. These cabins are all located in the watershed of the Tuolumne River, which feeds the Hetch Hetchy Water and Power Project for the city of San Francisco. A cabin at Snow Flat, in the Merced River drainage, was built by the DWR in 1947. These cabins became the property of the U.S. Government, which used and maintained them, allowing city workers to use them in connection with the acquisition of hydrologic data.

After World War II, the ease and expediency of observation of snow markers from aircraft led to the placement of aerial snow depth markers in remote areas of the Sierra. All such markers in Yosemite are in the Tuolumne watershed and include Dana Meadow, Wilmer and Vernon lakes, Sachse Springs, and Beehive Meadow. The use of automatic snow sensors began in 1965. They have been located in Yosemite and throughout the Sierra in remote locations where access is a problem. These sophisticated pieces of equipment enable forecasters to update their information on snow accumulation and depletion at a much more rapid pace, especially during periods of high flood potential.

The Sierra Nevada Mountain range's snowpack provides two-thirds of California's water for cities, farms, and recreation in addition to hydroelectric plants, which produce about a quarter of California's power. How "wet" or "dry" a year is predicted to be has many impacts. Public utilities use these estimated to determine hydropower generation rates. Good water years allow utilities to use more hydropower and, consequently, save oil. In a dry year,

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however, utilities are more dependent on steam generation using more oil, coal, and atomic fuel. Agricultural interests determine crop-planting patterns with water predictions as well as ground water pumping needs, and irrigation schedules. Operators of flood control projects determine how much water can safely be stored in a reservoir while reserving space for predicted inflows. Municipalities use the information to evaluate their water supply and determine whether (in a dry year) water rationing may be needed.

While the development and deployment of automated snow survey sensors has greatly reduced the need for remote cabins, these buildings provide a truly historic perspective of the earliest stages of snow surveying in California leading to the efficient management of water throughout most of the West today. These backcountry cabins still have a useful function during the course of snow surveys conducted on foot, serving as shelters and as bases of operation for the maintenance and repair of snow survey equipment. Many of the structures also function as ranger cabins in summer and winter, aiding in backcountry patrol, visitor assistance, law enforcement, and search and rescue activities. The number of backcountry patrol cabins is held to a minimum. They are maintained in excellent condition with as little intrusion on backcountry natural resources as possible. Their simple rustic architectural style enables them to blend in with their surroundings and remain unobtrusive. The cabins are utilized primarily as staging areas and collection points in park backcountry patrol and maintenance projects. Generally they are not utilized as fixed-station duty assignments. Park backcountry patrol assignments are scheduled with maximum mobility, resource protection, and visitor contact in mind.

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