

Badger Mountain Lookout
0.125 miles NW of Badger Mt. summit
East Wenatchee vicinity
Douglas County
Washington

HABS No. WA-208

HABS
WASH
9-EWEN. V,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

**Historic American Buildings Survey
National Park Service
Western Region
Department of the Interior
San Francisco, California 94107**

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HISTORIC AMERICAN BUILDINGS SURVEY

BADGER MOUNTAIN LOOKOUT HABS No. WA-208

Location: .125 mile northwest of Badger Mt. summit
East Wenatchee Vicinity
Douglas County
Washington

U.S.G.S. Orondo Quadrangle (7.5')
Universal Transverse Mercator Coordinates:
10. 707620. 5265340

Present Owner: U.S. Department of Agriculture
Forest Service
301 Yakima Street
P.O. Box 811
Wenatchee, Washington, 98807-0811

Occupant: Vacant

Current Use: None. Eventual use as interpretive exhibit in new location.

Statement of
Significance: Badger Mountain Lookout and its site are significant to the history of the USDA Forest Service and its development of a comprehensive forest fire surveillance and detection system. The lookout embodies the distinctive characteristics of a uniquely functional property type designed for construction in a challenging mountain terrain.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of Erection: Circa 1935. Forest Service records are contradictory as to the precise date of construction of the Badger Mountain Lookout. Records from 1932 suggest the presence of a permanent lookout structure on Badger Mountain, replacing the earlier use of a tall fir tree and tent camp on the site. A Forest Service employee of that period, however, reported the lookout tree still in use in 1938. Later correspondence (from 1941) implies that the present lookout house had been moved to the site from an earlier, undocumented location. The year of that relocation is also unknown.

2. Architect: Badger Mountain Lookout is based upon standard lookout designs developed by Region One Forest Service personnel Clyde P. Fickes and J.B. Halm in 1928, and revised by K.E. Banks in 1932.

3. Original and Subsequent Owners: The Badger Mountain Lookout stands outside the boundaries of the Wenatchee National Forest, surrounded by private farm lands. The USDA Forest Service has owned and operated a lookout station from the site since at least 1922. Hans Holt, longtime owner of the immediate homestead, officially donated the lookout site to the Forest Service in 1941.

4. Builder/Contractor: Over 30 lookout houses were constructed for the Wenatchee National Forest by the Civilian Conservation Corps between the years 1933 and 1942. Badger Mountain Lookout is believed to be among this group. Typically, the C.C.C. provided a work crew which was supervised by a skilled carpenter known as the Local Experienced Man (L.E. M.). No specific names have been documented in connection with the construction of this lookout.

5. Original Plans and Construction: Since its founding in 1905, the USDA Forest Service had sought to provide fire surveillance of the National Forests through placement of men on strategic mountain peaks during fire season. The use of specialized lookout structures began in the Pacific Northwest with the construction of a prototype lookout house placed on Mt. Hood in 1915. The D-6 (District 6, now Region 6) Lookout House, with its distinctive hipped roof and cupola observatory, was built throughout the forests of the northwest in the 1920s.

An important variation on the standard D-6 Lookout House design was the standard Plan L-2 developed in 1928 by Forest Service employees Clyde P. Fickes and J.B. Halm from Region One. The Plan L-2 was designed for construction with pre-cut members packed in by mules, along with simple tools and easy-to-follow instructions. The lookout man was to match the numbered pieces together and build the shelter by himself. Few L-2 lookout houses were constructed, and those that were did not stand up well.

The design of the Plan L-4 in 1930 was the logical evolution of the basic concept of the L-2, and is also credited to Fickes and Halm. The standard Plan L-4 was also pre-cut and shipped in bundles specifically limited in length and weight and packed in by horse or mule, but was intended for more permanent construction by a skilled carpenter and crew. The L-4 Plan was slightly revised two times between 1930 and 1936 and continued to be used extensively by the Forest Service until 1953.

Badger Mountain Lookout exhibits character-defining features typical of standard Plan L-4 (as revised in 1932) lookout houses constructed throughout Wenatchee National Forest during the C.C.C. era. Records suggest that this lookout was first constructed in another location, and subsequently disassembled and moved to Badger Mt. Its original location remains undocumented, and no details of the move and reconstruction on Badger Mountain have come to light.

6. Alterations and Additions: Badger Mountain Lookout has undergone little physical change since its construction in the mid-1930s. The original tongue-in-groove built-up shutters have been replaced, because of prolonged exposure to severe weather, with a similarly-detailed plywood type shutter, still utilizing the original brace and support system. On the interior, modern vinyl flooring has covered the original 1" by 4" fir flooring. The only element of original standard wood furnishings which remains in place is the firefinder stand. Benches, table, storage cabinets, lightning stool, and the firefinder instrument itself have been removed from the lookout.

There is evidence of several outbuildings and features which once were situated around the exterior of the lookout, but which have been either demolished or allowed to deteriorate. These include the foundations of a garage, remnants of an old root cellar, a flag pole site, and pathways and walks lined with sandstone and basalt.

B. Historical Context:

1. Establishment of the USDA Forest Service: In 1905, Federal legislation created the USDA Forest Service, an agency dedicated to the protection and management of previously-established forest reserves. Forest Rangers and Supervisors began to develop a comprehensive system for administration of the forests, including the development of trails, roads, and ranger and guard stations. By 1908, five new National Forests were created in Washington State: Chelan NF, Colville NF, Columbia NF (later changed to Gifford Pinchot), Snoqualmie NF, and Wenatchee NF.

In the same year, the Forest Service also began to formally recruit paid fire crews, greatly strengthening the agency's forest fire suppression capability. Previously, fire control had been handled by the combined volunteer efforts of miners, loggers, ranchers, and homesteaders. The establishment of the new agency marked an advance in public support for the conservation of natural resources and for a program of full-scale forest fire protection.

2. Development of a Fire Surveillance and Protection System: Early in the administration of the National Forests, a specialized detection/communication system through a network of fire lookouts was put in place. The essential feature of this system was the stationing of men on selected mountain peaks during fire season. The sole responsibility of the lookout man was to discover, report, and in some cases fight forest fires.

The lookout system expanded rapidly between 1911 and 1915, owing in large part to extensive fires in 1910 and subsequent Federal aid. Typically, the lookout man camped in a tent below the peak and hiked daily to and from a tree platform or a pile of rocks. These crude stations were equipped with a compass or firefinder and a means of communication by heliograph or telephone. The prototype "Osborne Fire Finder" came into use in 1914. Readings similar to those taken from an engineer's transit would be used in conjunction with sightings from other lookout stations to provide a "triangulation."

3. Development of Specialized Lookout Structures: By 1915, the Forest Service had begun to consider the importance of providing a permanent lookout structure which would enhance the working conditions and the performance of the lookout man. The prototype lookout house built on Mt. Hood in 1915 (the basis for the standard D-6 Lookout House) was designed by Lige Coalman of District 6. It was a 12' by 12' pre-cut wood frame house with windows all around the upper portion of the structure, a protective shutter system, and a glazed second-story observatory or cupola. Eventually, a few hundred lookouts based on this design were placed on forests in Washington, Oregon, Idaho, and Montana. The great majority of these are no longer extant.

4. Early Fire Surveillance and Detection on the Wenatchee National Forest: Wenatchee National Forest was established in 1908 out of lands previously administered as part of the Washington Forest Reserve. Sheep grazing, orcharding, mining, and trapping were the principal commercial activities on or adjacent to forest lands. Because of these activities, an extensive system of trails and wagon roads existed on the forest by 1908. Access into and out of the Wenatchee Valley was by steamer on the Columbia River, or over the steep and difficult Colockum Pass route from the Kittitas Valley. The forest's fairly intense level of use, the relatively good access to it, and the dry climate east of the Cascade Crest, contributed to the area's extensive fire history.

By 1914, several fire lookout points had been established by the Forest Service on the Wenatchee National Forest. These camps, on selected mountain peaks, included Dirty Face Ridge, Sugarloaf Peak, Icicle Ridge and Tiptop. The placement of these stations and the subsequent construction of D-6 cupola-style lookouts followed a regional trend.

Good automobile roads connected eastern and western Washington and extended well into the forest by 1922. A fairly well-developed system of trails provided access to all parts of the forest by foot or pack horse. An official Forest map from this period promoted the "beautiful" views from fire lookout stations, which were accessible by trail and included; Tumwater Mt., Dirty Face Peak, Sugarloaf Peak, Tiptop, Red Top, and Jolly Mt. Permanent lookout houses, most often of the D-6 cupola-style plan, had been placed on at least eight lookout points by 1925 and several more triangulation points and/or tent camps were in use.

5. Design and Construction of the Plan L-4 Fire Lookout House: The Plan L-4 Lookout House, designed by Fickes and Halm of Region One, was developed as a more efficient and economic alternative to the older D-6 design. At first intended for assembly by the lookout man himself (as Plan L-2), the 1930 Plan L-4 was made for construction by a professional carpenter and his crew. The design was slightly revised in 1932 from a simple gable roof form to a more structurally efficient hipped or pyramidal roof configuration. In 1936, the design was again revised to specify a different window shutter support system. Over 1000 L-4 plan lookouts were ultimately built throughout the National Forests, primarily on Region One, in Montana and Idaho, and Region Six in Washington and Oregon.

The standard Plan L-4 included several distinctive design features which reflect the functional nature of the property type and the conditions involved in the construction and use of it. The salient features of the plan were: a 14' by 14' structural frame of pre-cut members; indigenous rock foundations and guy anchorage systems; a tower structure of pre-drilled, treated timbers; perimeter catwalks; pyramidal roof forms (after 1932); a continuous band of windows for 360-degree visibility; window shutters to protect glazing from snow and wind; a lightning protection system; and rudimentary interior furnishings which included the firefinder instrument and stand.

6. Expansion of the Fire Lookout Network, 1932-1938: The proliferation of the standard Plan L-4 in an expanded fire lookout network in the 1930s was spurred by two important events: the initiation in 1932 of a ten-year National Plan for forest projects, and the establishment in 1933 of the Civilian Conservation Corps.

The C.C.C. influenced the physical development of lands under the jurisdiction of the National Forest Service more than any other single group or federal program. The C.C.C. had a particularly significant impact on the improvement of National Forests in the Pacific Northwest. Between 1933 and 1942, the accomplishments of the C.C.C. in the region included the construction of hundreds of lookout houses and towers, the installation of thousands of miles of telephone lines, and the construction and maintenance of foot trails, forest roads and fire breaks. Administrative and service buildings, many of them still in use today, were also erected by C.C.C. crews.

C.C.C. projects were undertaken on the Wenatchee National Forest by enrollees stationed at Camp Taneum near Thorp, Camp Icicle near Leavenworth, Camp Brennigan on the Entiat River, Camp 25 Mile Creek on Lake Chelan, and the Soil Erosion Camp at Mission Creek at Cashmere. In order to better accomplish isolated projects, several other "side" or "spike" camps were also established and operated entirely by the Forest Service.

The contributions of the C.C.C. greatly improved the Forest Service's fire detection and suppression system. Over 30 lookout houses were erected by the C.C.C. on the Wenatchee National Forest alone. Trails or roads to access the lookout sites were also provided. Many C.C.C. enrollees additionally served as lookout men or made up firefighting crews on major forest fires in the 1930s.

7. Occupation and Use of the Badger Mountain Lookout: Euro-American settlement in the Wenatchee area began in the late 1860s, although the lack of rail transportation and isolation from national markets limited growth for several decades. By the late 1880s, the land around Badger Mountain had been homesteaded and was in use for livestock grazing and wheat farming. By 1917, wagon roads traversed this area of Douglas County. Dramatically different topography characterizes Douglas County on the east side of the Columbia River, and Chelan County on the west. From the gently rolling wheat and grasslands of Badger Mountain is an unmatched view of the forested mountain ranges of Chelan. It is possible that Badger Mountain served as a fire surveillance point prior to any documented Forest Service use of the site.

By 1922, official Forest Service maps note the use of a "TREE" and a triangulation station on Badger Mountain. The lookout station appears to have been easily accessible from East Wenatchee. The "TREE" and triangulation station notations continue to appear on Forest Service maps until the mid-1930s, although records from 1932 indicate that a "permanent" lookout and a tree were in use. Correspondence from 1947 refers to the relocation of a lookout house to Badger Mountain. Thus, the precise date of the construction or reconstruction of the present-day lookout on Badger Mountain has yet to be documented.

Badger Mountain Lookout was actively manned into the mid-1970s and has been used for emergency purposes since that time. Oscar Richardson served as lookout man there for about 20 years, from 1953 through 1972. Several women manned the station at various times, including Charlotte Rainey from the ranch below, Barbara Calder from 1949 to 1950, and Lana Thurston in the mid-1970s. Badger Mountain Lookout was actively used for monitoring purposes in the Dinkelman Fire of 1988.

PART II. ARCHITECTURAL INFORMATION

A. General Statement

1. Architectural character: Badger Mountain Lookout is a well-preserved example of the standard Plan L-4 Lookout House, exhibiting nearly all of the character-defining features associated with Forest Service fire lookouts of that type.

2. Condition of fabric: The overall condition of the building fabric is good, reflecting a continued level of maintenance over the years. The lookout house has been recently painted. Some early outbuildings and site features are no longer extant, but the historic integrity of the structure itself is excellent.

B. Description of Exterior

1. Overall dimensions: The lookout house itself is square in plan with exterior dimensions of 14' by 14'. The house stands on a treated timber tower 18' in height. (See photo nos. WA-xxx-3 thru 6).

2. Tower construction: The treated timber tower consists of 8 x 10" cabin girders, 8 x 8" vertical members, and 4 x 6" diagonal (x-braced) and perimeter members. These structural members are secured together with galvanized machine bolts. The tower base is anchored to poured-in-place concrete footings with steel rods and straps. The entire structure is further held in place by a guy cable anchorage system at all four corners. (See photo nos. WA-xxx- 7 and 17).

Note that photo no. WA-xxx-22 depicts a foundation and sill layout for houses to be set directly upon rock piers only. Tower construction details are not to be found, and likely were those that appeared on the missing Sheet 8 of the drawing set.

3. Walls: The lower exterior walls of the lookout house are clad with 1 x 6" (v-groove) rustic siding. The upper two-thirds of the 6'-9" high walls consists of a continuous band of fenestration. (See photo nos. WA-xxx-7, 8, and 23).

4. Framing system: Elements of the pre-cut wood frame are limited to 8'-0" in length to allow transport by pack team. Symmetrical dimensions, uniform millwork, and length limitations allowed the lookout to be constructed in isolation. (See photo nos. WA-xxx-23).

5. Catwalk and stairs: A standard 3'-0" catwalk encircles the lookout house. It consists of 2" decking, 2 x 4" dimensional lumber guard rails and stairs, and wire screening. The stair structure rests on indigenous stone, a reddish sandstone and basalt. (See photo no. WA-xxx-13).

Note that catwalk and stair details are not to be found in the extant set of 7 drawings (photo nos. WA-xxx-22 thru 28), but may have appeared on the missing Sheet 8.

6. Openings: A single entry door at the northeast corner of the lookout house is of the standard wood panel type with two-over-two lights above, proportional to the adjoining window sash. Original door hardware remains in place. (See photo no. WA-xxx-15).

Two-over-two light, fixed and casement sash occupy the upper two-thirds of the exterior wall area around the entire lookout house. There are a total of five windows per elevation, with the exception of the north side where the door occupies the fifth structural bay. Operable casements occur only at the southwest corner of the structure, kitty-corner from the door.

The window design varies from that specified in the 1932 Plan L-4 revision. (See photo nos. WA-xxx-14 and 25.) The drawings called for pivoting sash and interior window supports suspended from the ceiling to prop open the upper sash rails. There is no evidence of window hardware removal or alteration at Badger Mountain.

7. Shutters: The eight original, tongue-in-groove, built-up shutters at Badger Mountain have been replaced (as frequently occurred at other L-4 lookouts, owing to severe weather exposure) with plywood shutters of similar design. The original 2 x 2" wooden shutter supports, secured with carriage bolts through double eye-bolts on the catwalk railing, remain in use. (See photo nos. WA-xxx-13 and 26).

8. Roof: The cedar shingle-clad pyramidal roof retains its original form and finish, including an ornate, galvanized metal ridge flashing. Pieces of the original lightning protection system, consisting of a solid copper rod about 1" thick at the roof peak and 1/4" copper wire around the eaves line, remain in place. (See photo nos. WA-xxx-4 and 24).

C. Description of Interior

1. Floor Plan: The interior of the Badger Mountain consists of a single room, square in plan, within which the lookout man or woman lived and worked. (See photo no. WA-xxx-14).

2. Flooring: Modern vinyl covers the original 1 x 6" fir flooring in the Badger Mountain Lookout. (See photo nos. WA-xxx-14 and 22).

3. Wall and ceiling finish: Original 1 x 4" tongue-in-groove paneling remains on the lower wall surfaces and ceiling of the interior. The ceiling also features a trap door to the attic space, and a drop-down board with a mounted topographic map. (See photo nos. WA-xxx-14 thru 16).

4. Features and furnishings: The only piece of interior furnishings remaining at Badger Mountain is the original wooden firefinder stand. Standard wooden furnishings reported at the site in 1988 included a table/desk, four benches, two low storage cabinets, and a lightning stool. The firefinder instrument was removed prior to 1988. Plan L-4 drawings (as revised 1932) also specified on-site construction of a rudimentary bed. (See photo nos. WA-xxx-14 and 28).

D. Site

1. General setting and orientation: Badger Mountain Lookout stands at an elevation of 3,498' on a windswept mountaintop across the Columbia River from the Wenatchee National Forest. The lookout commands a better than 180-degree view of the Chelan, Entiat, and Wenatchee Mountain ranges to the northwest, west, and southwest, as well as a view of the sagebrush and rolling wheatfields of Bager Mountain around and below it.

The immediate site is treeless, except for a weather-beaten fir tree located to the northeast and uphill from the lookout. This tree served as the original lookout point and in it remain portions of the original access ladder. Access to the site is by dirt road through private farmland given over to grazing and wheat-growing. At a slightly higher elevation about 1/8 mile to the southeast, visible from the lookout, stands a radio tower, the only intrusion on the isolated site.

2. Outbuildings and remnant features: One additional structure remains standing on the site, a simple wood outhouse situated to the southeast of the lookout. It is not known if this is in fact the original privy. Other extant site features reveal much about the lifestyle of the personnel who manned the station. These include the concrete foundation of a former garage, rock and timber remains of a root cellar further down slope from the lookout, the site of a flagpole, and remnants of landscaped paths and walks lined with native sandstone and basalt.

PART III. SOURCES OF INFORMATION

A. Original Architectural Drawings:

1932 set of blueline drawings (7 of 8 extant) made for the U.S. Department of Agriculture, Forest Service, labelled "R-6 1930 Lookout House, 14' by 14', 1932 Revision, designed by K.E. Banks," in possession of Entiat Ranger Station, Wenatchee National Forest, Entiat, WA. In handscript, each drawing is also labelled with "Ground Type 'D' for Horse Pack."

B. Bibliography:

Krafft, Katheryn H. "USDA Forest Service Fire Lookouts on the Wenatchee National Forest." National Register Multiple Property Documentation Form (1988). USDA Forest Service, Wenatchee National Forest, Forest Supervisor's Office, Wenatchee, WA. Includes extensive bibliography, incorporated by reference herein.

Krafft, Katheryn H. "Badger Mountain Lookout." National Register Nomination Form (1988). USDA Forest Service, Wenatchee National Forest, Forest Supervisor's Office, Wenatchee, WA.

Kresek, Ray. Fire Lookouts of the Northwest. Ye Galleon Press. Fairfield, WA., 1984.

Spring, Ira. Lookouts: Firewatchers of the Cascades and Olympics. The Mountaineers. Seattle, WA., 1981.

Miscellaneous Administrative records and documents on file at Forest Supervisor's Office, Wenatchee National Forest, Wenatchee, WA.

Miscellaneous Historic Maps - 1908-1936, Wenatchee National Forest, Forest Supervisor's Office, Wenatchee, WA.

PART IV. PROJECT INFORMATION

Badger Mountain Lookout is no longer actively manned as a fire lookout station and has received only intermittent use since the 1970s. In the spring of 1995, the Wenatchee National Forest plans to dismantle the lookout house and tower and reassemble it at the proposed Columbia Breaks Fire Interpretive Center, to be located several miles north of Entiat on the west side of the Columbia River.

Because Badger Mountain Lookout was listed in the National Register of Historic Places in 1988 as part of a Multiple Property registration of historic lookouts on the Wenatchee National Forest, the proposed project requires compliance with Section 106 of the National Historic Preservation Act and 36 CFR Part 800. To mitigate the anticipated adverse effect of the disassemble and relocation of the lookout, the Forest Service has undertaken this HABS recordation in accordance with National Park Service standards.

Through its continuing services contractor, Foster Wheeler Environmental Corporation, of Bellevue, WA., the Wenatchee National Forest hired Florence K. Lentz, Cultural Resource Consulting, of Ellensburg, Washington, in the fall of 1994. Ms. Lentz met with personnel at the Entiat Ranger Station, examined original Plan L-4 Lookout drawings, and completed a site inspection of the lookout.

The written historical data supplied herewith was compiled by Ms. Lentz largely from information contained in the well-researched "USDA Forest Service Fire Lookouts on the Wenatchee National Forest" National Register Multiple Property Documentation Form (1988), and data presented in the "Badger Mountain Lookout" National Register Nomination Form (1988). All photo-documentation including photocopies of the Plan L-4 Lookout drawings, was completed by John Stamets, Photographer, of Seattle, WA.