

Idaho Panhandle National Forest, USDA Forest Service

Mallard Peak Restoration Project

FY 2010 Project Description



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Mallard Peak Lookout (10SE65) Project Description

Given that this is one of the few remaining intact prototype L-4 lookouts, the period of significance should be considered the initial period of construction, with the exception of the ceiling that was added in 1939, guy wires that were removed to eliminate the tension on the cabin corners that was ripping the cabin apart, outer protective door, and possibly, the open pit toilet. In addition to any plans that exist for the original cabin, the description in the National Register nomination form and the following description by Don Mathis should help focus restoration and maintenance work:

The lookout cabin was built according to a plan developed by the Forest Service, Region 1, in 1928. This became the first L-4 plan for lookout cabins. It was fourteen feet square with a low seven foot ceiling. For the first few years the interior had exposed rafters. A ceiling was added in 1939 by Sam Irvine from St. Maries, Idaho serving as lookout that summer. It had a gabled roof covered with wood shingles. The outside of the cabin was painted an off white color (gray) and the inside was dark green. A steel cable from each corner anchored the cabin to the top of the peak. These cables were eventually discarded because it was found that the extreme cold in winter caused the cables to contract which tended to pull the cabin apart. Lightning arresting equipment covered the cabin and the internal metal equipment. Hinged fold down shutters covered the outside of the windows when the cabin was not being used as a lookout. When being used, the shutters were braced up outside above the glass forming a sun shade.

Three of the four walls of the lookout had five slide-by windows consisting of six panes of glass about nine by fourteen inches in two tiers. The fourth wall had four windows and a door with glass panes on the top. There were two spring beds hinged to the south and west walls about eight inches off the hardwood floor. They could be folded up against the wall during the day. A Lang wood stove occupied the northeast corner of the cabin and was used for baking, cooking, and heat. A table was hinged to the north wall and could be folded against the wall when not in use. Storage shelves lined the east wall where food, cooking utensils, and small tools were kept.

Lanterns, candles, and flashlights were used for illumination. Garbage was thrown down the cliff on the east side. A pit was later attempted, but digging in the rocks was near impossible. A pit toilet consisted of boards nailed between two trees with a shallow pit in the rocks. A manufactured toilet seat was installed, but a curious goat pulled it off with his horns and for some time was observed with a strange collar about his neck. An outhouse was built below the cabin to the east, but snow destroyed it so the original means between the trees was restored. A circular Bosworth fire finder map board was mounted on a pedestal in the center of the cabin. The telephone was fastened to this. The telephone used earphones and a chest microphone so that the lookout had his hands free to work the fire finder during lightning storms and smoke sightings. A short stool with

insulators on the four legs was near the fire finder. The lookout could stand on it while using the fire finder without fear of electric shock.

Accomplishments for FY '08

Between August 28 and 31, 2008 IPNF staff and volunteers completed maintenance work on Mallard Peak Lookout. Steve Matz (IPNF Archaeologist), and volunteers Gary Weber (Forest Fire Lookout Association Treasurer), Richard Fuller, Tim Grubham, and family members Carey, Kyle, Britta, Cammie and Madison Grubham, arrived at Table Camp on the evening of August 28th and hiked into the lookout on Friday, the 29th. The Grubhams worked the 29th and headed for Fawn Lake on the 30th, while Chuck Mark, St. Joe District Ranger, arrived that afternoon. Friday and Saturday the following items were accomplished:

- ✓ All shutters were put in place (the two gabled ends have working shutters, while the two sides are nailed or screwed in place);
- ✓ All siding, most of the trim and the two south end window shutters and the door shutter were painted white (we did not paint shutters that will be replaced in the near future);
- ✓ Cans were flattened and placed over woodpecker holes on the south end and painted white;
- ✓ Gary put most of the lightening protection system back together;
- ✓ Detached southeast guy wire (the consensus was that the large flat boulder the guy is attached to may be sliding slightly down hill causing the corner to pull away);
- ✓ The corner was pulled back in line and since there wasn't enough wood to successfully nail to (the header over the door had been ripped to provide sufficient room for installation of the new door). Tim nailed a length of wood into the space above the door and screwed a galvanized hinge across the corner to hold it temporarily in place; and
- ✓ Tim used his fall arrest equipment to do minor repairs to the roof and the stove chimney pipe.
- ✓ Steve Matz took extensive notes and photos of the lookout and collected samples of hinges and materials for next year's project.



Figure 1. North side of lookout at end of project (left) and south and east sides at end of project (right).



Figure 2. West side of lookout at end of project (right) and stencil "FOREST SERVICE, AVERY IDAHO, MALLARD PEAK" on interior roof sheathing suggesting the lookout was from a pre-cut kit (left).



Figure 3. Chimney damage at junction of lower pipe sections prior to refitting (left) and temporary repair to SE corner with galvanized hinge. Need to replace with L-brackets under siding/molding both inside and out.



Figure 4. Repaired wood pecker holes with flattened tin cans; viewed prior to painting (left) and View of SE corner anchor boulder that may be slipping downhill and pulling corner out of alignment (right).

Accomplishments for FY '09

In 2009, two project sessions were undertaken, one in the winter and the other in the summer. The winter project involved the construction of the windows and shutters, while the summer project involved the actual construction activities. Both are described in separate sections below.

Winter Session

On March 16 through 20, 2009 parts for the planned restoration work on the Mallard Peak Lookout were cut out and assembled. Members of the Idaho Panhandle National Forests Heritage Team, Fred Simmet, Sarah Wilson and Steve Matz, worked with Kirby

Matthew and Cathy Bickenheuser, of the Northern Region Historic Preservation Team at the wood shop in Missoula, Montana to build window shutters, windows and drip edge. During the weeklong project the following items were accomplished:

- ✓ Parts for eight shutters using the 1928 materials list and 1948 photos of the window shutters were cut out and primed;
- ✓ Six of the eight shutters were put together using galvanized, slotted wood screws instead of pin-nailing (i.e., nailing through the board and onto an anvil to drive the points back into the board) so that the shutters would be easily repairable;
- ✓ All parts for 19 three-over-two light windows were cut out to replace the three-over-three windows salvaged from Black Mountain in the 1980s;
- ✓ Fourteen windows were put together and five windows were glazed; and
- ✓ Forty-plus feet of drip edge (i.e., molding to stop water dripping above the shutters on the gabled end) was cut to replace damaged drip edge.



Figure 5. Fred and Sarah putting a shutter together. The vertical battens were moved closer to the edge than the original plan and the 1940s period cross batten was added for additional strength (left). Sarah using a Yankee screw driver to attach the battens (right).





Figure 6. Sarah priming the shutter (left). The final color will be white on the outside and chrome green on the inside to reduce glare. Fred cutting 20 foot plus long white pine boards for window parts (right).



Figure 7. Kirby cutting the boards down into window part blanks (left) and Kirby cutting tennons for window sashes (right).



Figure 8. Kirby and Fred inspecting sash fit in preparation for final machine set-up and cutting (left) and Kirby installing muntins into a window sash.



Figure 9. Kirby, Fred and Sarah inspecting final window fit (left) and Sarah, Kirby and Fred glazing the first window (right).



Figure 10. Cathy cutting one of the angles on the drip edge (left) and final product looks just like original (right).

Summer Session

On August 10 through 12, 2009 the FS and volunteer crew completed installation of the shutters and other projects. The shutters, tools and paint were flown in by helicopter with the help of the St. Joe District fire staff, James Bartlett, Destry Scheel and Jerrod Sheffelmaier. Volunteers Tim Grubham, Lloyd Grubham, Richard Fuller and Thomas Linsenmann were joined by Forest Service Archaeologist Sarah Wilson and District Ranger Chuck Mark. The following items were accomplished:

- ✓ Replaced shutters on north, south and west sides and fixed struts;
- ✓ Replaced door shutter;
- ✓ Painted shutter exteriors and touched up siding where needed;
- ✓ Reattached copper wire on lightning protection system;
- ✓ Strengthened southeast corner with angle iron and northwest corner with lag bolts; and
- ✓ Cleaned out unnecessary wood, parts and trash from lookout.



Figure 11. Tim cuts blocks for shutter hinge installation (left) and Tim and Richard hang door shutter (right).



Figure 12, below. Lloyd repositioning struts to new location (left) and interior placement of allthread bolts through window header to fasten shutter hinges (right).





Figure 13. Shutter hinge installation from straight on (left) and hinge installation from edge (right).



Figure 14. Interior view of door shutter installation (left) and exterior door and window shutters with barrel bolt installation (right).



Figure 15. South (left) and north (right) sides completed.



Figure 16. West side completed (left) and southwest corner completed (right).

Accomplishments for FY '10

In 2010, one project session has been undertaken during the winter, while the other will occur the week of July 26. The winter project involved the final construction of the windows and shutters, while the summer project will involve the installation of the windows, two remaining shutters and miscellaneous work. Both are described in separate sections below.

Winter Session

During the winter Jack Poppen, A Kootenai National Forest (NF) carpenter on loan to the IPNF, completed assembly of the windows and shutters cut out the year before. In addition, he cut out the pieces for the window posts and sliders so that the new windows could be mounted.

Summer Session

Transport the following items to the lookout prior to July 21st.

- ✓ Tools
- ✓ 19 window sashes
- ✓ Two shutters
- ✓ Drip molding
- ✓ Window posts
- ✓ Window slide trim
- ✓ Paint

Shutters

- ✓ Inspect existing shutters and repair as necessary
- ✓ Replace east side plywood shutters with new window shutters
- ✓ Install iron straps for shutter brace correctly and develop tie down so braces do not swing against siding in the wind.

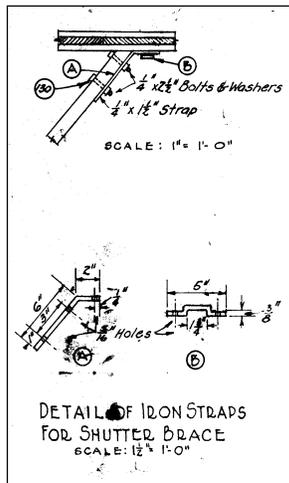


Figure 17. Detail of 1931 shutter brace hardware (left) and present alignment (right). Mount hardware on opposite side of stabilizer arm and cut top of arm at same angle as hardware. Place hook and eye on siding to keep stabilizer arm from swinging and damaging siding.

Drip Molding

- ✓ Install drip molding between siding panels as per original plan drawings rather than as previously installed. Previous location interferes with appropriate placement of shutter hinges.



Figure 18. Photo of drip molding cross-section fitted into tongue and groove siding above shutters as presently installed.

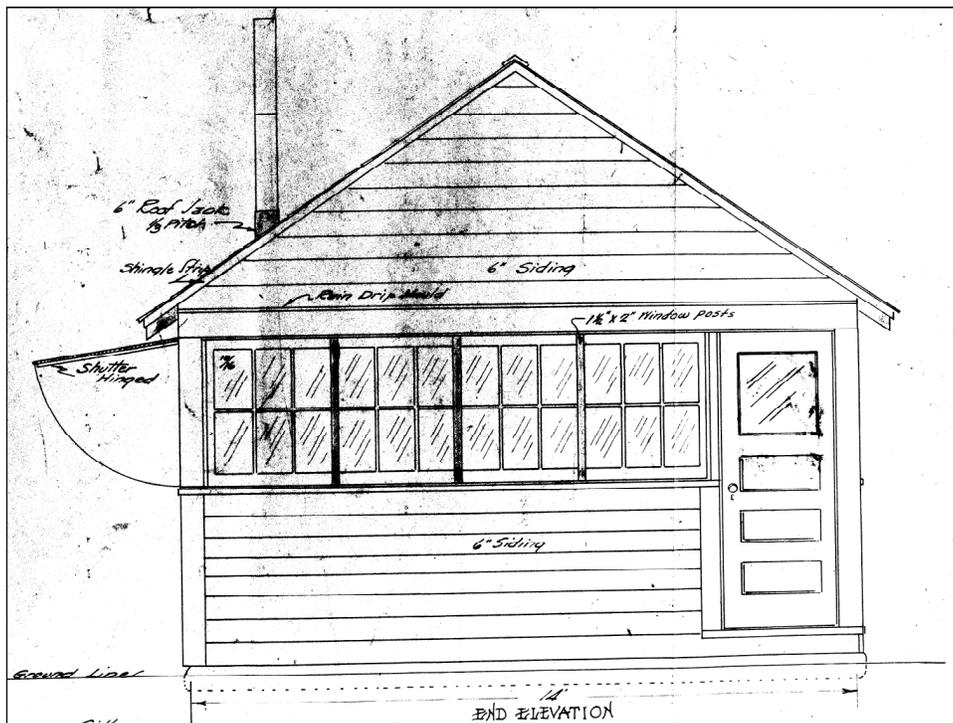


Figure 19. Note location of drip molding installation in original plans.

Windows

- ✓ Install original 3-over-2 configuration windows with two of five panes on west, north and east side and two of four panes on south side so that they slide open for ventilation.
- ✓ Inspect and replace window headers with either single header or spliced header as per original plans to remove bow in north side of lookout.
- ✓ Install window posts as per plan detail.



Figure 20. Present interior window detail. From sill to sill window is 3' tall.

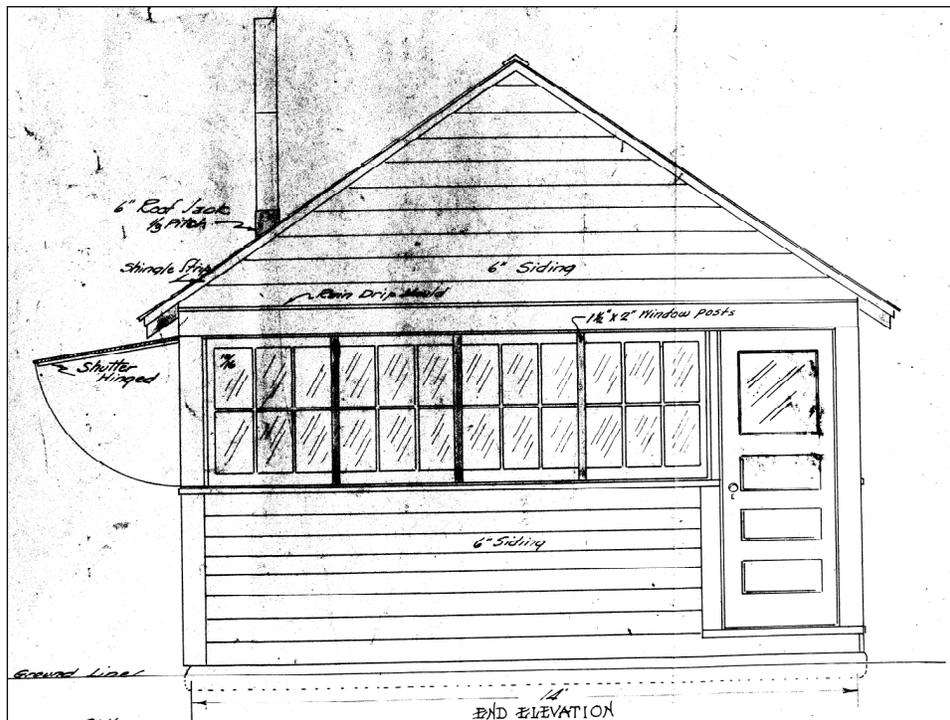


Figure 21. Front window detail. Front window opening dimensions are approximately 10' 8".

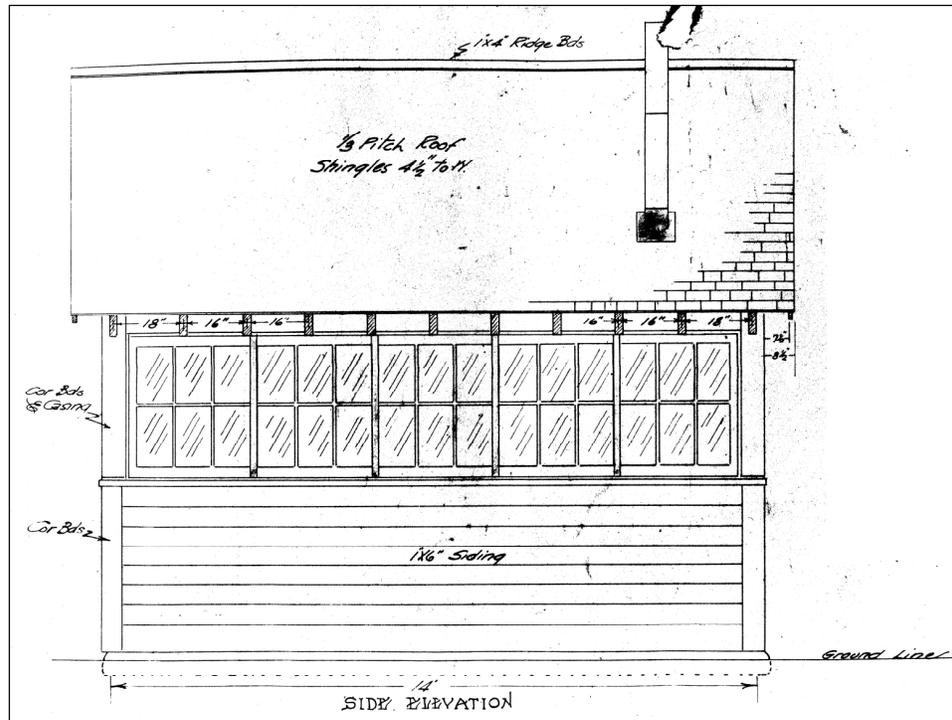


Figure 22. Side window detail. Side and rear window opening dimensions are approximately 13' 4".

Paint

- ✓ Scrape lightly to remove peeling paint on exterior or interior so that little or no wood is removed. Catch paint on drop cloth for disposal.
- ✓ Any sanding must be done to appropriate OSHA standards given lead levels in wood.
- ✓ Bright white on exterior. Bright white semi-gloss on interior ceiling and Benjamin Moore Chrome Green 09641 or equivalent on interior windows, walls and shutter surfaces to reduce glare. Roof color is dark green stain mixture (find out appropriate substitute).

Proposed LO Work

Roof – Shingles in good condition, monitor each year for leaks and condition.

Roof Jack and Chimney

- ✓ Replace roof jack, stove pipe and guy wires.

Figure 23. Repair or replace stove pipe, guy wires and roof jack to prevent leaks.



- ✓ The existing ceiling flange no longer fits the opening. Replace ceiling boards with 8" shiplap to reduce size of hole and replace ceiling flange.



Figure 24. Interior view of stove pipe junction at roof sheathing (left). Replace missing ceiling board with 1x8" shiplap and find appropriate collar for ceiling (right).

Floor –

- ✓ Inspect and replace maple flooring and any subflooring as necessary. The floor will need to be removed to at least the warped section, warped wood replaced and straight wood placed back as appropriate.
- ✓ If warping continues, nail flooring or replace with 1x8" shiplap as per original design.



Figure 26. Floor is warped near the door so that several inches of space has been lost.

Miscellaneous

- ✓ Lightning Protection System – inspect, tighten and replace minor elements as necessary to function as is. Replace with modern clamps if possible and reattach to ground as necessary.
- ✓ Replace exterior corner boards on south and north sides
- ✓ Replace 1x8" shiplap lower siding on north and east sides with 1x6" tongue and groove siding.



Figure 27. Trim boards weathered, cut-off and warped and lower sections of shiplap siding replaced with 1x8" shiplap.

- ✓ Finish covering woodpecker and other holes and fill with appropriate sealer to reduce snow infiltration.
- ✓ Add interpretive panel inside the lookout to help explain importance of the lookout and need for preservation (this should help cut down on vandalism). This could be a small routed wood (?) interpretive panel.
- ✓ Install second bed frame.

- ✓ Inspect and if necessary replace existing stove with modern unit that is in same style as original.

/s/ Stephan Matz

Idaho Panhandle NF Archaeologist