

Skate Creek Bridge Closure: December 4, 2008 Engineering Evaluation

Issue: An evaluation of Skate Creek Bridge by a private engineering firm on Forest Road 47 in the Cowlitz Valley Ranger District of the Gifford Pinchot National Forest (GPNF) was completed on December 4, 2008. Due to the potential for catastrophic failure that could occur at any time, the engineering firm's recommendation to the Forest Service was to close the bridge to traffic. Repair of the current bridge was not recommended. Replacement of the bridge is estimated to be in the order of \$1,500,000 to \$2,000,000.

Background:

Skate Creek Bridge

The Skate Creek Bridge was originally constructed in 1948 to cross Skate Creek. Typically bridges such as this are designed with a design life of 50 years, yet this bridge served its purpose for approximately 60 years. Based on past inspection reports and observations as well as the overall condition of the bridge, it was determined that a more in-depth evaluation was needed to further understand the condition of the bridge in order to ensure public safety. The scope of the evaluation of the bridge included an extensive inspection of the condition and the capacity of the bridge, recommendations on the use of the bridge, and the feasibility of bridge repair. During the inspection many deficiencies were noted, including mapping of the extensive cracking that was found. Cracks in the deck, girders, and piers were recorded. A delaminated section was recorded on pier 1. The inspection also found that one of the piers supporting the bridge has settled one foot, and the second pier supporting the bridge has moved 1.5 to 2 inches horizontally. As a result the bridge is twisting and being pushed upward in the center. Upon completion of the engineering evaluation, the recommendation was to close the bridge to traffic.

Gifford Pinchot National Forest

Cumulatively, the GPNF has 121 road bridges of which 108 are open to traffic and 13 are closed. Typically Bridges on the GP are inspected in two or four year cycles, unless issues arise that require a certain bridge to be inspected more frequently. On average, forty bridges on the GPNF are inspected every year. As a result of these inspections over the last twelve years, four major bridges and five minor bridges have failed. Seventy percent of road bridges on the GPNF have reached or exceeded their design life expectancy.

Pacific Northwest Region

The regional Capital Investment Program is the fund that provides road and project money for national forests in Oregon and Washington. In fiscal year 2009, the CIP budget is \$2.8 million. The competition for these funds for priority projects is strong considering that minor bridge replacement costs can total \$500,000 and major bridge replacement costs begin at \$1 million and go up from there.

Next Steps:

The Gifford Pinchot National Forest will continue to seek funding for replacement of this bridge and others through the capital investment program and other funding sources. To date there are no firm plans for replacement.