INTEROFFICE MEMORANDUM

TO: RICK NEWTON

CC: JOE FOREMAN

FROM: GREGORY LAURIE

SUBJECT: STREAM HEALTH CONSISTENCY REVIEW OF 2005 PROJECTS AT COPPER MOUNTAIN AND BRECKENRIDGE

DATE: 7/5/2005

On June 16 and 20 I visited the Copper Mountain and Breckenridge Ski Areas to review projects proposed for 2005. The purpose of the review was to evaluate the projects for their potential impact on stream health, and their consistency with standards in the Water Conservation Practices Handbook (WCPs). The following comments summarize my observations and recommendations.

Some of the proposed projects at Copper Mountain are located within the Wheeler Creek watershed. Surveys conducted in 2003 show that Wheeler Creek is currently in a diminished stream health class due to unstable banks and fine sediment. Unstable banks and fine sediment are often caused by connected disturbed areas (CDA), such as graded ski runs and roads that drain directly into stream channels. Runoff from connected disturbed areas is enhanced by tree clearing and snowmaking. Because the WCP standards require that actions maintain or improve towards robust stream health, any project that increases the amount of CDA in Wheeler Creek would be inconsistent with the standards. Any new grading or snowmaking should be disconnected by routing runoff into areas with intact soils and dense trees where water can infiltrate to groundwater. Where possible, projects should disconnect existing CDA by improving drainage from existing roads and graded ski runs.

The projects at Breckenridge ski area are located in the Cucumber Creek and Sawmill Creek watersheds. Stream health in both Cucumber and Sawmill Creeks is currently robust, and meets Forest Plan goals for water resources. Projects proposed in these watersheds could be allowed to increase CDA and still maintain robust stream health. However, any new grading or snowmaking should be disconnected from streams where ever possible.

We evaluated a total of 12 projects, including grading, tree clearing, and snowmaking (Table 1). All of the projects we reviewed are either disconnected from stream channels, or can be disconnected through project design. Design criteria for specific projects are listed below. At Copper Mountain, the use of design criteria will result in a net decrease of about 0.5 acres of CDA, and restore about 0.25 acres of wetlands. At Breckenridge, there will be no change in the current CDA. The proposed projects are therefore consistent with the WCP handbook and are in compliance with the standards for water and riparian resources.

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