

June 6, 1990

To : McDowell Creek File, Mendocino County

FROM : Rick Macedo

SUBJECTS: 1601 Recommendations Regarding The Proposed Box Culvert Work At Post Marker 5..76 On Hwy. 175 and Electroshocking Results

On June 5, 1990 I met with Caltrans Maintenance Supervisor Mike Bingham (707-263-6848) to review the proposal to repair undermining of the subject box culvert. The culvert is set at an estimated 3 percent slope and has an exposed sill which sits approximately two feet above the downstream elevation of McDowell Creek. This causes flows in the culvert to be wide, shallow and fast. A two foot drop-off exists at the downstream base of the culvert. Adult fish must jump the two feet and swim up through the rapid and shallow flows coming out of the box culvert. Fortunately, a deep (2.5 to 3.0 ft.) pool exists at the downstream end of the culvert.

Downstream wing-walls and the downstream base of the box culvert have been undermined. Caltrans plans to fill the voids with additional concrete and RSP. As currently proposed, Caltrans will extend the wing-walls and sill down below current stream grade and fill the pool with RSP.

Sections upstream and downstream of the box culvert were electrofished for purposes of documenting fish use. Juvenile steelhead were recovered upstream and downstream of the culvert. In addition to steelhead, a few California newts were captured. Approximately 50 juvenile steelhead were observed over a 75 yard reach. A sample of 11 were measured. Average fork length was 55.6 mm with a range of 42-70 mm. Stream temperature at 1120 hours was 57 °F and the flow was estimated at 2 cfs.

Since viable steelhead habitat exists upstream of the site, I recommend that Caltrans improve fish passage conditions at the box culvert. A structure similar to that proposed for Schindler Creek, Lake County would greatly enhance fish migration.

As for the current 1601 application, I recommend the following conditions be included with the agreements:

1. Work shall be confined to the period June 15 through September 15.
2. All stream flow shall be diverted away from the work site for purposes of minimizing downstream turbidity.
3. Work shall be staged so that complete dewatering of the pool below the culvert is avoided. If complete dewatering is necessary, all fish in the pool shall be captured and relocated to upstream or downstream sites.
4. All RSP shall be confined laterally along either wing-wall. Filling of the downstream pool with RSP shall be avoided. No RSP shall be placed at the downstream base of the box culvert.

cc: L. Morgan, W. Jones, J. Emig
Mark Moore (Caltrans)