

# STREAM INVENTORY REPORT

## “Gulch 27”

### WATERSHED OVERVIEW

The unnamed tributary commonly known as, and herein after referred to as, Gulch 27 is a tributary to Middle Fork Ten Mile River. Elevations range from 640 feet at the mouth of the creek to 2,600 feet in the headwater areas. Gulch 27's confluence with Middle Fork Ten Mile River is T20N R15W S33, 39° 32'48" N latitude, 123°32'07" W according to the USGS Sherwood Peak 7.5 minute quadrangle.

### HABITAT INVENTORY RESULTS

The habitat inventory of July 10 through July 11, 1995, was conducted by Diana Hines and David Lundby. The total length of surveyed stream in Gulch 27 was 5,831 feet (1.1 miles) (Table 1). A 30 foot waterfall (anadromous barrier) on Middle Fork Ten Mile River is located downstream from the Gulch 27 confluence. As a result, Gulch 27 was surveyed as fish bearing. There were no side channels in this creek.

Flow measured at the mouth of Gulch 27 on July 11, 1995 was 0.77 cubic feet per second (cfs).

Gulch 27 is comprised of three reaches; B2 for 4380 feet, F2 for 1372 feet and A2 for 79 feet

Table 1 summarizes the Level II habitat types. Of the Level II habitat types, riffles comprised 36%, flatwater 30% and pools 34% (Graph 1). Of the total survey length, riffles comprised 32%, flatwater 47% and pools 22% (Graph 2).

Nine Level IV habitat types were identified (Table 2). Of the Level IV habitat types, the most frequently occurring were low gradient riffles, 20%, and mid-channel pools, 16%, (Graph 3). Of the total survey length, step runs comprised 37% and low gradient riffles 17% (Table 2).

Table 3 summarizes main channel, scour and backwater pools which are Level III pool habitat types. Main channel pools were most often encountered at 58% occurrence and comprised 64% of the total length of pools.

Table 4 is a summary of maximum pool depths by Level IV pool habitat types. Pools with depths of two feet or greater are considered optimal for fish habitat. In Gulch 27, 33 of the 45 pools (73%) had a depth of two feet or greater (Graph 4).

The depth of cobble embeddedness was estimated at pool tail-outs. Of the 45 pool tail-outs measured, 0% had a value of 1, 13% had a value of 2, 19% had a value of 3 and 68% had a value of 4 (Graph 5).

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Of the Level II habitat types, Riffles had the highest mean shelter rating at 56 (Table 1). Of the Level III pool habitat types, main channel pools had the highest mean shelter rating at 60 (Table 3).

Of the 45 pools, 9% were formed by large woody debris: 0% by logs and 9% by root wads (calculated from Table 5).

Table 6 summarizes dominant substrate by Level IV habitat types. Of the low gradient riffles fully measured, 75% had small cobble as the dominant substrate type (Graph 6).

Mean percent closed canopy was 85%: 19% coniferous trees and 66% deciduous trees. Mean percent open canopy was 15% (Graph 7, calculated from Table 7).

Mean percent right bank vegetated was 64% while mean percent left bank vegetated was 69%. Deciduous trees occurred most often as bank vegetation at a mean percent of 42 (of units fully measured). Cobble/gravel occurred most often as bank substrate with a mean percent of 45 (of units fully measured) (Table 7).

## COMMENTS AND LANDMARKS

The following landmarks and possible problem sites were noted. All distances are approximate and taken from the beginning of the survey reach.

| Position<br>(ft): | Comments:  |
|-------------------|--|
| 233               | 3" of undercut bank under root wad.  |
| 1338              | Large debris accumulation (LDA) measures 10' high x 15' wide x 12' long.   |
| 1658              | LDA measures 20' wide x 7' high x 15' long.  |
| 2388              | LDA measures 8' wide x 10' high x 20' long.  |
| 2751              | LDA measures 17' high x 30' wide x 50' long, retaining gravel and fine sediment.   |
| 2771              | LDA measures 10' high x 40' wide x 15' long.   |
| 2829              | RBA site.  |
| 4863              | Trib enters on right bank; comparable flow and possible thermal refuge, but lacks suitable spawning habitat. Steep grade and 10' waterfall render it inaccessible to anadromous fish. No fish observed in the first ¼ mile of the tributary. |

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- 5312 Possible fish barrier.
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- 5691 Right bank failure measures 100' high x 40' wide, contributing fines and gravel.
- 5831 End of survey. 15' high plunge follow by 17' high plunge. No fish observed in 440' upstream of end of survey point.

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