

STREAM INVENTORY REPORT

Smith Creek

WATERSHED OVERVIEW

Smith Creek is a tributary to South Fork Ten Mile River. Elevations range from 40 feet at the mouth of the creek to 1,480 feet in the headwater areas. Smith Creek confluence location is T19N R17W S11, 39° 31'33" N. latitude, 123°43'47" W. longitude on the USGS Dutchmans Knoll 7.5 minute quadrangle.

HABITAT INVENTORY RESULTS

The habitat inventory of August 9 through August 10, 1994, was conducted by Warren Mitchell and David Lundby. The total length of stream in Smith Creek surveyed was 33,352 feet (6.3 miles) (Table 1). There were no side channels in this creek

Smith Creek is comprised of two reaches; C4 for 26,044 feet and B4 for 6,802 feet.

Table 1 summarizes the Level II habitat types. Of the Level II habitat types, riffles comprised 27%, flatwater 29% and pools 40% (Graph 1). Of the total survey length, riffles comprised 21%, flatwater 53% and pools 21% (Graph 2).

Twelve Level IV habitat types were identified (Table 2). Of the Level IV habitat types, the most frequently occurring were low gradient riffles, 27%, step runs, 19% and lateral scour log pools, 16% (Graph 3). Of the total survey length, step runs comprised 45%, low gradient riffles 20% and runs and lateral scour log pools 8% each (Table 2).

Table 3 summarizes main, scour and backwater pools which are Level III pool habitat types. Scour pools were most often encountered at 78% occurrence and comprised 78% 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 Smith Creek, 107 of the 246 pools (43%) had a depth of two feet or greater (Graph 4).

The depth of cobble embeddedness was estimated at pool tail-outs. Of the 246 pool tail-outs measured, 0% had a value of 1, 0% had a value of 2, 16% had a value of 3 and 84% had a value of 4 (Graph 5).

Of the Level II habitat types, pools had the highest mean shelter rating at 31 (Table 1). Of the Level III pool habitat types, scour pools had the highest mean shelter rating at 34 (Table 3).

Of the 246 pools, 54% were formed by large woody debris: 38% by logs and 15% by root wads (calculated from Table 5).

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Table 6 summarizes dominant substrate by Level IV habitat types. Of the low gradient riffles fully measured, 99% had gravel as the dominant substrate (Graph 6).

Mean percent closed canopy was 83%: 36% coniferous trees and 47% deciduous trees. Mean percent open canopy was 17% (Graph 7, calculated from Table 7).

Mean percent right bank vegetated was 70% while mean percent left bank vegetated was 74%. Brush occurred most often as bank vegetation at a mean percent of 56 (of units fully measured). Sand/silt/clay occurred most often as bank substrate with a mean percent of 96 (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 (ft):	Comments:
284	First bridge crossing.
6286	Large debris accumulation (LDA).
8580	LDA measures 18' wide x 15' long x 5' high.
11198	LDA measures 10' long x 19' wide x 4' high.
11607	LDA measures 29' long x 38' wide x 5' high, retaining gravel and small cobble.
13661	LDA measures 23' wide x 19' long x 9' high; retaining gravel and cobble.
15111	LDA measures 21' long x 28' wide x 7' high; retaining gravel and cobble. Possible barrier
15283	Young-of-the-year (YOY) salmonids observed.
15900	LDA measures 25' wide x 8' long x 5' high; retaining small woody debris (SWD) and gravel/cobble.
16522	LDA measures 31' long x 28' wide x 7' high, retaining gravel/cobble.
16535	YOY observed.

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- 16793 LDA measures 30' long x 20' wide x 6' high, retaining gravel/cobble.
- 16909 YOY observed.
- 18466 LDA measures 23' long x 19' wide x 5' high.
- 19025 LDA measures 15' wide x 20' long x 5' high, retaining gravel/cobble.
- 19418 LDA measures 10' wide x 27' long x 5' high.
- 22212 LDA retaining gravel, cobble and sand.
- 22351 LDA measures 18' wide x 40' long x 5' high, retaining gravel and sand.
- 23473 LDA measures 26' wide x 9' long x 4' high.
- 25476 LDA measures 18' wide x 12' long x 5' high, retaining gravel and sand.
- 26926 LDA measures 17' wide x 24' long x 8' high, retaining gravel and cobble.
- 30271 Rootwad retaining woody debris, gravel and cobble.
- 30382 LDA measures 17' wide x 6' long x 5' high, retaining gravel and cobble.
- 30630 LDA measures 24' long x 12' wide x 6' high.
- 32258 YOY observed.
- 32514 End of survey. Creek forks. Right fork is intermittent and gradient increases with no suitable habitat for anadromous fish. Left fork is intermittent and gradient increases. No barriers, but no suitable habitat for anadromous fish.

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