

STREAM INVENTORY REPORT

LOST MAN CREEK

INTRODUCTION

A stream inventory was conducted during the summer of 1992 on Lost Man Creek to assess habitat conditions for anadromous salmonids. The inventory was conducted in two parts: habitat inventory and biological inventory. The objective of the habitat inventory was to document the habitat available to anadromous salmonids in Lost Man Creek. The objective of the biological inventory was to document the salmonid species present and their distribution. After analysis of the information and data gathered, stream restoration and enhancement recommendations are presented.

There is no known record of adult spawning surveys having been conducted on Lost Man Creek. The objective of this report is to document the current habitat conditions, and recommend options for the potential enhancement of habitat for chinook salmon, coho salmon and steelhead trout.

WATERSHED OVERVIEW

Lost Man Creek is tributary to Hollow Tree Creek, tributary to the South Fork Eel River, tributary to the Eel River, located in Mendocino County, California (Figure 1). Lost Man Creek's legal description at the confluence with Hollow Tree Creek is T23N R17W S33. Its location is 39°47'49" N. latitude and 123°44'33" W. longitude. Lost Man Creek is a first order stream and has approximately 1.3 miles of blue line stream, according to the USGS Leggett 7.5 minute quadrangle. Lost Man Creek drains a watershed of approximately 1.1 square miles. Elevations range from about 1,040 feet at the mouth of the creek to 2,000 feet in the headwater areas. Redwood forest dominates the watershed. The watershed is owned by the Louisiana-Pacific Corporation and is managed for timber production. Vehicle access exists from State Highway 1 at Hales Grove, via Westside Road to Eastside Road.

METHODS

The habitat inventory conducted in Lost Man Creek follows the methodology presented in the California Salmonid Stream Habitat Restoration Manual (Flosi and Reynolds, 1991). The California Conservation Corps (CCC) and contract seasonal Technical Advisors that conducted the inventory were trained in standardized habitat inventory methods by the California Department of Fish and Game (DFG). Lost Man Creek personnel were trained in May and June, 1992, by Gary Flosi and Scott Downie. This

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inventory was conducted by a two person team.

HABITAT INVENTORY COMPONENTS

A standardized habitat inventory form has been developed for use in California stream surveys and can be found in the California Salmonid Stream Habitat Restoration Manual. This form was used in Lost Man Creek to record measurements and observations. There are nine components to the inventory form. For specific information on the methods used, see the Hollow Tree Creek Report.

BIOLOGICAL INVENTORY

Biological sampling during stream inventory is used to determine fish species and their distribution in the stream. Biological inventory is conducted using one or more of three basic methods: 1) stream bank observation, 2) underwater observation, 3) electrofishing. These sampling techniques are discussed in the California Salmonid Stream Habitat Restoration Manual.

DATA ANALYSIS

Data from the habitat inventory form are entered into Habitat Runtime, a dBASE 4.1 data entry program developed by the California Department of Fish and Game (DFG). This program also processes and summarizes the data.

The Habitat Runtime program produces the following tables:

- Riffle, flatwater, and pool habitat types
- Habitat types and measured parameters
- Pool types
- Maximum pool depths by habitat types
- Dominant substrates by habitat types
- Mean percent shelter by habitat types

HABITAT INVENTORY RESULTS

* ALL TABLES ARE LOCATED AT THE END OF THE REPORT *

The habitat inventory of July 14, 1992, was conducted by Jason Cleckler and Erick Elliot (contract seasonal and CCC). The total length of the stream surveyed was 99 feet.

Flow was not measured in Lost Man Creek.

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Lost Man Creek is a B1-1 channel type for the entire 99 feet of stream reach surveyed. B1-1 channels are moderate gradient (1.5-4.0%), moderately confined streams, with bedrock channels.

Water temperature was 61 degrees fahrenheit. Air temperature was 82 degrees fahrenheit.

Table 1 summarizes the Level II riffle, flatwater, and pool habitat types. By percent **occurrence**, pools made up 50.0%, riffles 33.3%, and flatwater 16.7%. Pool habitat types made up 50.5% of the total survey **length**, riffles 25.3%, and flatwater 24.2%.

Five Level IV habitat types were identified. The data are summarized in Table 2. The most frequent habitat type by percent **occurrence** was plunge pools, 33.3%. By percent total **length**, plunge pools made up 36.4%, and step runs 24.2% (Table 2).

Three pools were identified (Table 3). Scour pools were most often encountered at 66.7%, and comprised 72.0% of the total length of pools.

Table 4 is a summary of maximum pool depths by pool habitat types. Depth is an indicator of pool quality. Two of the three pools (66.7%) had a depth of two feet or greater.

The depth of cobble embeddedness was estimated at pool tail-outs. Of the two pool tail-outs measured, one had a value of 1 (50%), and one had a value of 3 (50%). On this scale, a value of one is the best for fisheries.

A shelter rating was calculated for each habitat unit and expressed as a mean value for each habitat type within the survey using a scale of 0-300. Flatwater habitat types had the highest shelter rating at 60.0. Pool habitats followed with a rating of 26.7 (Table 1). Of the pool types, the scour pools had the highest mean shelter rating at 32.5, and main channel pools rated 15.0 (Table 3).

Table 5 summarizes mean percent cover by habitat type. All cover types are lacking in Lost Man Creek.

Table 6 summarizes the dominant substrate by habitat type. Gravel was the dominant substrate observed in the one low gradient riffle in the survey reach.

Thirty-two percent of the survey reach lacked shade canopy. Of the 68% of the stream covered with canopy, 100% was composed of deciduous trees, and 0% was composed of coniferous trees.

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Table 2 summarizes the mean percentage of the right and left stream banks covered with vegetation by habitat type. For the stream reach surveyed, the mean percent right bank vegetated was 16.7%. The mean percent left bank vegetated was 9.2%. The dominant elements composing the structure of the stream banks consisted of 91.7% bedrock, and 8.3% cobble/gravel.

BIOLOGICAL INVENTORY RESULTS

One electrofishing site was sampled on Lost Man Creek. The objective was to identify fish species and distribution. The unit was sampled on July 22, 1992 by Shea Monroe (CCC) and Jason Cleckler. The unit was end-blocked with nets to contain the fish within the sample reach. One pass was conducted, fork lengths (FL) measured and recorded, and the fish returned to the stream.

The site sampled was habitat unit #3, a plunge pool, approximately 33 feet from the confluence with Hollow Tree Creek. This site had a surface area of 165 sq ft, and a volume of 132 cu ft. The unit yielded seven steelhead, ranging from 55 to 132 mm FL.

DISCUSSION

The B1-1 channel type is generally not suitable for instream enhancement structures. However, bank placed boulders, bank cover, overhead log cover and shelter structures are often appropriate.

The water temperature recorded on the survey day July 14, 1992, was 61° F. Air temperature was 82° F. This is a very good water temperature regime for salmonids. However, to make any further conclusions, temperatures would need to be monitored throughout the warm summer months, and biological sampling conducted.

Flatwater habitat types comprised 24.2% of the total **length** of this survey, riffles 25.3%, and pools 50.5%. Two of the three pools within the survey reach were greater than two feet deep.

The mean shelter rating for pools was low with a rating of 26.7. The shelter rating in the flatwater habitats was better at 60.0. A pool shelter rating of approximately 100 is desirable.

The one low gradient riffle in the survey reach had gravel as the dominant substrate. This is generally considered good for spawning salmonids.

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The mean percent canopy for the stream was 68%. This is a relatively high percentage of canopy, since 80 percent is generally considered optimum in these north coast streams.

RECOMMENDATIONS

- 1) Lost Man Creek should be managed as an anadromous, natural production stream.
- 2) Due to the 16' high falls near the mouth of Lost Man Creek, access for migrating salmonids is a problem. Good water temperature and flow regimes exist in the stream and it offers good conditions for rearing fish. Fish passage should be monitored, and improved where possible.

PROBLEM SITES AND LANDMARKS

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

- 0' Begin survey at confluence with Hollow Tree Creek. Plunge 6' high into Hollow Tree Creek. Channel type is a B1-1.
- 33' Plunge 4' high.
- 99' Plunge 16' high x 5' wide. No young-of-the-year salmonids (YOY) seen above the falls. Above this point are numerous deep pools and one log debris accumulation (LDA) 125' long. End of survey.