STREAM INVENTORY REPORT

Meyer Gulch

WATERSHED OVERVIEW

Meyer Gulch is tributary to Mill Creek, tributary to Navarro River, tributary to the Pacific Ocean located in Mendocino County, California (Map 1). Meyer Gulch's legal description at the confluence with Mill Creek is T15N R15W S34. Its location is 39□07□28□ north latitude and 123□30□22□ west longitude. Meyer Gulch is an ephemeral stream according to the USGS Cold Springs 7.5 minute quadrangle. Meyer Gulch drains a watershed of approximately 1.3 square miles. Summer base runoff is approximately 0.01 cubic feet per second (cfs) at the mouth. Elevations range from about 740 feet at the mouth of the creek to 1,100 feet in the headwater areas. Redwood and Douglas fir forest dominates the watershed. The watershed is entirely privately owned. Vehicle access exists via Holmes Ranch Road.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of August 8, 1998, was conducted by Paul Retherford (WSP\AmeriCorps) and Doug Albin (DFG). The total length of the stream surveyed was 3,579 feet.

Flow was estimated to be 0.01 cfs during the survey period.

Meyer Gulch is an B4 channel type for the entire 3,579 feet of stream surveyed. B4 channels are moderatly entrenched, moderate gradient, riffle dominated channels with infrequently spaced pools, very stable plan and profile, stable banks and a gravel channel. The suitability of B4 channel types for fish habitat improvement structures is as follows: excellent for weirs, boulder clusters, bank placed boulders, single and opposing wing-deflectors and log cover.

The water temperatures recorded on the survey day August 8, 1998, ranged from 59 to 68 degrees Fahrenheit. Air temperatures ranged from 76 to 83 degrees Fahrenheit. This is a marginal water temperature range for salmonids, but water temperatures during warm summer months are lacking. For a more complete and accurate water temperature profile 24-hour temperatures would need to be monitored throughout the warm summer months.

Based on the total length of this survey, Level II habitat units consisted of 41% flatwater units, 22% pool units, and 19% dry units. The pools are relatively shallow, with 12 of the 29 pools having a maximum depth greater than 2 feet.

Five of the 29 pool tail-outs measured had embeddedness ratings of 3 or 4. Six had a 1 rating. Cobble embeddedness of 25% or less, a rating of 1, is considered best for the needs of salmon and steelhead. In Meyer Gulch, sediment sources should be mapped and rated according to their potential sediment yields, and control measures should be taken.

The mean shelter rating for pools was 55. The shelter rating in the flatwater habitats was 0. A pool shelter rating of approximately 100 is desirable. Log and root wad cover structures in the pool and flatwater habitats are needed to improve both summer and winter salmonid habitat.

Twenty-six of the 29 pool tail-outs measured had gravel or small cobble as the dominant substrate. This is generally considered good for spawning salmonids.

The mean percent canopy density for the stream was 79%. The percentage of right and left bank covered with vegetation was 53% and 61%, respectively. In areas of stream bank erosion or where bank vegetation is not at acceptable levels, planting endemic species of coniferous and deciduous trees, in conjunction with bank stabilization, is recommended.

Steelhead were observed through habitat unit number 91, 3,579 feet upstream. At that point, access for anadromous fish is blocked by a continuous dry unit.

BIOLOGICAL INVENTORY RESULTS

Two sites were electrofished on September 8, 1998, in Meyer Gulch. The units were sampled by Paul Retherford and Janet Lester (WSP\AmeriCorps).

The first site sampled included habitat units 87-89, a series of pools, runs, and a riffle 3,399 feet from the confluence with Mill Creek. This site had an approximate length of 86 feet. The site yielded 2 steelhead and 1 yellow-legged frog.

The second site included habitat units 90-91, a series of pools, runs, and riffles 3,579 feet above the creek mouth. This site had a length of approximately 58 feet. The site yielded 2 steelhead and 2 yellow-legged frogs.

RECOMMENDATIONS

1) Meyer Gulch should be managed as an anadromous, natural production stream.

2) The limited water temperature available suggest that the maximum temperatures are marginal for juvenile salmonids. To establish more complete and meaningful temperature regime information, 24-hour monitoring during the July and August temperature extreme period should be performed for 3 to 5 years. The Mendocino County Water Agency has deployed water temperature monitoring probes at various locations in the Mill Creek drainage since 1995.

3) Fish passage through the culvert 46' from the confluence must be monitored. Consultation with a DFG engineer is recommended to explore improving the ability of salmonids to enter and pass through the culvert.

4) Where feasible, design and engineer pool enhancement structures to increase the number of pools. This must be done where the banks are stable or in conjunction with stream bank armor to prevent erosion.

5) Increase woody cover in the pools and flatwater habitat units. Most of the existing cover is from undercut banks. Adding high quality complexity with woody cover is desirable.

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.

0' Begin survey at confluence with Mill Creek. Channel type is an B4.

20' Fish ladder with a 3' jump to ladder, then a 4' jump into the culvert. No jump pool at low flows.

46' Culvert; 7' diameter with a 3' rust line. Cement baffles in the culvert. Two 2.5' auxiliary culverts located above the main culvert.

2,363' Left bank dry tributary; steep, not accessible to fish.

2,649' Left bank dry tributary; steep, not accessible to fish.

2,798' Log debris accumulation, 5' long x 25' wide x 5' high; retaining 5' of sediment.

3,399' Electrofishing site #1.

3,528' Electrofishing site #2.

3,579' Left bank tributary; <0.01 cfs, 65 degrees F, no fish observed. End of survey. Meyer Gulch becomes dry with small intermittent pools for a couple hundred feet, then it completely dries up. No fish observed in the small pools after the end of survey. There are a few human-made dams a few hundred feet above the end of survey which are retaining 6'-8' sediment.