

STREAM INVENTORY REPORT

Powers Creek

WATERSHED OVERVIEW

Powers Creek is tributary to Steelhead Creek, tributary to the mainstem Eel River, located in Humboldt County, California. Powers Creek's legal description at the confluence with Steelhead Creek is T03S R05E S29. Its location is 40°10'05" N. latitude and 123°38'46" W. longitude. Powers Creek is a blue line stream according to the USGS Fort Seward and Harris 7.5 minute quadrangles. Powers Creek drains a watershed of approximately 2.0 square miles. Summer base flow is approximately 0.5 cubic feet per second (cfs) at the mouth. Elevations range from about 330 feet at the mouth of the creek to 3,000 feet in the headwater areas. Mixed conifer forest dominates the watershed. The watershed is entirely privately owned and is managed for timber production and rural residence. Vehicle access exists via Steelhead Road from the town of Alderpoint. Contact landowner for permission to enter and for more explicit directions to the mouth of Powers Creek.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of October 24, 1996, was conducted by Frank Humphrey and Dave Smith (PCFWWRA). The total length of the stream surveyed was 821 feet.

Flows were not measured on Powers Creek.

Powers Creek is an A2 channel type for the entire 821 feet of stream surveyed. The suitability of A2 channel types for fish habitat improvement structures is described in the main body of this report.

The water temperatures recorded on the survey day October 24, 1996, ranged from 52 to 53 ° Fahrenheit. Air temperatures ranged from 55 to 57 ° Fahrenheit. This is a good water temperature range for salmonids. To make any further conclusions, temperatures would need to be monitored throughout the warm summer months, and more extensive biological sampling would need to be conducted.

Flatwater habitat types comprised 21% of the total **length** of this survey, riffles 48%, and pools 31%. The pools are relatively deep, with five of the nine pools having a maximum depth greater than 2 feet. Primary pool criteria are discussed in the main body of this report.

One of the nine pool tail-outs measured had an embeddedness rating of 3. One had a 1 rating and 3 had two ratings. Four were not suitable for sampling (value 5). Cobble embeddedness measured to be 25% or less, a rating of 1, is considered best for the

needs of salmon and steelhead.

The mean shelter rating for pools was moderate with a rating of 86. The shelter rating in the flatwater habitats was slightly lower at 42. A pool shelter rating of approximately 100 is desirable. Existing cover is being provided primarily by boulders in all habitat types. Log and root wad cover structures in the pool and flatwater habitats are needed to improve both summer and winter salmonid habitat.

All of the low gradient riffles had large cobble as the dominant substrate. This is generally considered unsuitable for spawning salmonids.

The mean percent canopy for the stream was 71%. This is a relatively moderate percentage of canopy, since 80 percent is generally considered optimum in these north coast streams.

The percentage of right and left bank covered with vegetation was moderate at 58% and 55%, 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.

BIOLOGICAL INVENTORY RESULTS

Steelhead rainbow trout were observed from the streambanks by Frank Humphrey and Dave Smith (PCFWWRA) during the stream survey of October 24, 1996.

RECOMMENDATIONS

- 1) Powers Creek should be managed as an anadromous, natural production stream.
- 2) Due to the high gradient of the stream, access for migrating salmonids is an ongoing potential 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.
- 3) 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.
- 4) Increase woody cover in the pools and flatwater habitat units. Most of the existing cover is from boulders. Adding high quality complexity with woody cover is desirable and in some areas the material is at hand.

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PROBLEM SITES 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 Steelhead Creek. Channel type is an A2 for the entire 821' of stream surveyed.
- 101' Steelhead rainbow trout (6" long) observed in pool.
- 192' Channel gradient is quite steep; greater than 8%.
- 821' Vertical bedrock waterfalls in channel, approximately 20' high. End of anadromy. End of survey.