

THE RESOURCES AGENCY OF CALIFORNIA  
 Department of Fish and Game  
**STREAM SURVEY**

Date: April 14, 1977

NAME: Hooker Creek COUNTY: Sonoma

STREAM SECTION: Entire FROM: Mouth TO: Headwaters LENGTH: 5.03

TRIBUTARY TO: Sonoma Creek TWP: 6N R: 6W SEC: 27

OTHER NAMES: Too numerous to list RIVER SYSTEM: Sonoma Creek

SOURCES OF DATA: Personal observations and local residents.

EXTENT OF OBSERVATION Include: Name of Surveyor, Date, Etc. LOCATION RELATION TO OTHER WATERS GENERAL DESCRIPTION Watershed Immediate Drainage Basin Altitude (Range) Gradient Width Depth Flow (Range) Velocity Bottom Spawning Areas Pools Shelter Barriers Diversions Temperatures Food Aquatic Plants Winter Conditions Pollution Springs FISHES PRESENT AND SUCCESS OTHER VERTEBRATES FISHING INTENSITY OTHER RECREATIONAL USE ACCESSIBILITY OWNERSHIP POSTED OR OPEN IMPROVEMENTS PAST STOCKING GENERAL ESTIMATE RECOMMENDED MANAGEMENT SKETCH MAP REFERENCES AND MAPS
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Extent of Observation

The stream was surveyed on foot and by car by Sally Spingla and Jane Webb on April 14, 1977 from the mouth to the headwaters.

Location

The mouth enters Sonoma Creek approximately 2 miles southeast of the town of Glen Ellen.

Relation to other waters

Hooker Creek supplies both summer and winter flows to Sonoma Creek.

General Description:

Watershed

Hooker Creek flows through two types of terrain; a flat, low section (west of Highway 12) used primarily for viticulture and a steep, upper section (east of Highway 12) that is mostly undeveloped. The remaining natural vegetation in the lower area is riparian and consists of willows, alders, oaks, acacias, maples and ash as well as blackberry, wild rose, and poison oak bushes. As elevation increases the vegetative cover changes to Douglas fir, bay trees, nutmeg, digger pine, juniper and madrones as well as manzanita and Ceanothus bushes. Ferns are found in shaded areas alongside the streambed. The soil in the upper elevations is rocky with little topsoil. West of Highway 12 the soil is a sand and adobe matrix with small river stones.

Immediate Drainage Basin

Hooker Creek drains approximately 4.6 square miles including 1.2 square miles of the Wilson Creek drainage. Hooker Creek is 5.03 miles long and has 10.68 miles of tributaries. The stream originates in an old mine shaft, station 9 on sketch map. The channel is re-shaped east of Highway 12 with low banks, 0.5 to 6.0 feet high. From Highway 12 to the mouth, the channel is V-shaped with banks 10 to 20 feet high. The east bank at the mouth is rip-rapped with boulders that are 3 to 4 feet in diameter.

Altitude

Headwaters, 2,200 feet MSL; mouth, 160 feet MSL.

Gradient

The gradient east of Highway 12 is moderately steep, averaging 8.5 feet per 100 feet. West of Highway 12 the gradient is gentle, averaging 0.75 feet per 100 feet.

Width

Range, 1 to 20 feet. Average, 3 feet.

Depth

Range, 0.5 inches to 6 feet. Average, 2 inches.

Flows

Range, 0.09 to 1.2 cubic feet per second.

Station 1	Above confluence with Sonoma Creek	1.2 cfs
Station 2	Above Wilson Creek	0.9 cfs
Station 3	0.3 miles west of Highway 12	Subsurface
Station 5	Under Cavedale Bridge	0.02 cfs
Station 6	Above pond at 2820 Cavedale	0.16 cfs
Station 7	Below pond at 2980 Cavedale	0.43 cfs
Station 8	S. Fork above pond at 2780 Cavedale	0.13 cfs
Station 9	At mineshaft	1.0 cfs

Velocity

Sluggish, less than 0.5 feet per second.

Bottom

The streambed from the mouth to station 6 appears to have a fair amount, an estimated, 30%, of spawning gravel. The areas near Stations 3, 4 and 5 had fine gravel (L 1" diameter) 40 - 50%; medium gravel (1-3" diameter) 20-50%; cobbles (3-13" diameter) 10-30%. In between gravel bottom areas are bedrock stretches which are dry or have pools. Leaf litter and detritus cover the bedrock in the pools.

Spawning Areas

Stations 3, 4 and 5 had approximately 30% fair spawning habitat (30-50% 1" diameter stones). We assume that stretches of stream in between are similar.

Pools

Few pools were observed. These were shallow averaging 3 feet in depth. Length ranged from 4 to 25 feet. Width from 3 to 20 feet. Average diameter 6 feet.

Shelter

Most shelter is provided by the large root of adjacent trees and overhanging riparian vegetation. Some undercut banks were seen. Canopy from trees ranged from 30-90%.

Barriers

Two small earth dams blocked the flow at Station 6 (2980 Cavedale). They appear to have been constructed during the time when a new road was graded. Boulders 2 to 4 inches in diameter formed a framework for the soil and clay. The dimensions of the pond between the dams is 20 x 40 x 6 feet. See photo. This dam may wash out when normal winter flows return. Patricia Herz, the tenant, said the dam had been built within the last two years.

A reservoir on Hooker Creek (Station 10 on sketch map) was noted at 4600 Cavedale Road (photo 6). The water level was approximately 4 feet below the spillway. There was no flow below the reservoir. Surface area was estimated to be approximately two acre-feet.

Diversions

Water is diverted from a pool in the mineshaft at the headwaters. A pipe carries the water to a small reservoir, approximately one acre-foot, west of Hooker Creek (see station 11 on sketch map). No other diversions were observed.

Temperatures

<u>Station</u>	<u>Location</u>	<u>Time</u>	<u>Temperature</u>	
			<u>Air</u>	<u>Water</u>
1	Confluence with Sonoma Creek	1000	65	54
2	Confluence with Wilson Creek	1130	68	56
5	Beneath Cavedale Bridge	1315	64	58
6	2980 Cavedale, above pond	1430	74	56
7	2980 Cavedale, below pond	1435	74	56
8	2980 Cavedale, South Fork Hooker Creek, above pond	1440	74	58
9	At mineshaft	1600	65	53

Food

Food organisms consisted of mosquito and black fly larvae as well as various aquatic beetles.

Aquatic Plants

Filamentous green algae and duckweed floated in sunlite pools. Bunch grass, rushes, mosses and wild celery grew along the banks and in shallow stream sections.

Winter Conditions

At Station 4 (photo 2) materials deposited by receding winter flows indicated a high water mark 6 feet above the streambed.

Pollution

Residences along Hooker Creek have septic tanks which may contribute solid wastes to the stream. Cecilia Laurie, owner of 4600 Covedale, had the water in the small reservoir (station 11 on sketch map) tested in 1976 and solid wastes were present in that sample.

Springs

Hooker Creek originates in a spring in the mineshaft (station 9 on sketch map). The residences at 2980 Cavedale get their water from springs, according to Patricia Herz.

Fishes Present

One fish, approximately 4 inches long was observed but not identified, above the dam at station 6. Residents reported "trout" in years past, but not within the last two years.

Other Vertebrates

Small toad tadpoles were observed near the confluence of Hooker and Wilson Creeks. An alligator lizard was found beneath the bridge at Highway 12. Three red-bellied newts were present near the dam at 2980 Cavedale. Western pond turtles are found near the reservoir at station 10.

Fishing Intensity

None at present, presumably light pressure, mainly from residents, has occurred in the past.

Other Recreational Uses

Hiking.

Accessibility

Hooker Creek is accessible near the mouth, by ranch roads from Madrone Road. East of Highway 12, Cavedale Road provides access at several points. Private dirt roads leading to residences at 980, 2980 and 4600 Cavedale may be used with permission from residents. The headwaters may be reached by a footpath maintained by residents at 4600 Cavedale Road.

Posted or Open

"No trespassing" signs are posted from the Highway 12 crossing to the headwaters.

Ownership

Hooker Creek is privately owned throughout.

Past Stocking

Unknown. The reservoir at 4600 Cavedale (Station 10) had been stocked with LMB by the Department of Fish and Game according to the owner, Cecilia Laurie.

General Estimate

This stream was probably a fair steelhead stream at one time. There is adequate spawning gravel, food and cover. Pool development is poor, but water levels are abnormally low this year. Better habitat may be available during years of normal rainfall. Hooker Creek is an important source of summer and winter flows to Sonoma Creek.

Recommended Management

Hooker Creek should be managed for its contribution of summer and winter flows to Sonoma Creek. Private ownership of land discourages fishing for any steelhead that may use the stream for spawning.

Sketch Map

Attached.

References and Maps

USGS 7.5' series quad maps for Glen Ellen, Rutherford and Sonoma, California.

# Hooker Creek, Sonoma County

