

# Memorandum

To : Jim Lemieux  
Water Quality  
DFG Reg 3

Date: 18 December 1973

From : Department of Fish and Game — BRIAN SMITH, FISH. MGMT

Subject: Big Sulphur Creek, Squaw Creek, Sonoma County — FISH POPULATION estimates

## BIG SULPHUR CREEK — JUVENILE STEELHEAD

<u>YR.</u>	<u>ABUNDANCE</u>	<u>POPULATION ESTIMATE</u>
1964 VISUAL ESTIMATE	—	20,780
1968 ROTENONE SURVEY	25/100'; 100/100'	17,502
1968 STREAM SURVEY	25/100'	22,400
1973 STREAM SURVEY	1/1000'	89

1966 BUREAU SPORT FISH ESTIMATE ADULT SH RUN TO BIG SULPHUR DRAINAGE OF 4000 ADULT SH

UPSTREAM FROM GEYSERS AREA, RESIDENT RT POPULATION STILL HEALTHY (EST. IN 1968 AT 15,840)

SQUAW CREEK — JUVENILE SH

<u>YR</u>	<u>ABUNDANCE</u>	<u>POPULATION ESTIMATE</u>
1968	40/100'	12,672
STREAM SURVEY — ROTENONE		
1973	75/100'	
	25/100'	TOTAL 10,642

GEO THERMAL ACTIVITY IS THE MAJOR CHANGING FACTOR IN THIS DRAINAGE MOST INTENSIVE GEO THERMAL DEVELOPMENT HAS OCCURRED ON BIG SULPHUR CREEK. SQUAW CREEK DRAINAGE HAS NOT YET BEEN SUBJECT TO THE IMPACT FROM EROSION, SPILLS OF DRILLING FLUIDS, ETC THAT BIG SULPHUR HAS.

STREAM SURVEYS INDICATE THAT THE PHYSICAL HABITAT IN TERMS OF SPAWNING GRAVELS, FLOWS, ETC STILL EXISTS. IN BIG SULPHUR CR. SHOULD WATER QUALITY IMPROVE\*, SH POPULATIONS WOULD PROBABLY RECOVER TO FORMER STATUS.

Brian J. Smith

\* ELIMINATION OR REDUCTION OF ADVERSE IMPACTS OR IMPACT POTENTIAL,