

MAK-SHE-JUN-JUN

CALIFORNIA DEPARTMENT OF FISH AND GAME
STREAM SURVEY

FILE FORM No.....

NAME.....Arroyo Sausal Creek.....COUNTY.....Marin.....

STREAM SECTION...FROM. mouthTO...1 mi. U/s fr. Pt. Reyes Petaluma xing..LENGTH...9 mi.

TRIBUTARY TO.....Walker Creek.....TWP...4N... R...8W...SEC.....30.....

OTHER NAMESRIVER SYSTEM.....Walker Creek.....

SOURCES OF DATA...two one-half day inspection by vehicle and on foot; local ranchers; maps.....

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

EXTENT OF OBSERVATION: Field inspections on Dec. 9 and 14, 1959 including spot checks at road crossings, hiking, and travel by car along the roads which parallel most portions of this stream from mouth upstream to approximately ~~1/3 mi~~ 1 mile above Pt. Reyes-Petaluma road crossing.

LOCATION: Arroyo Sausal Creek rises on the south slope of Red Hill, east of Hicks Valley, 6 miles south of Petaluma. It flows south for approximately 2 miles then turns and flows approx. 7 miles in a general westerly direction until it joins Salmon Creek. The combined stream on to the mouth is known as Walker Creek.

RELATION TO OTHER WATERS: It is a steelhead and silver salmon spawning and nursery tributary of Walker Creek.

GENERAL DESCRIPTION: Watershed -The watershed is part of a system of streams in the coastal range which flow in a westerly direction to enter Tomales Bay. The upper drainage basin is in a rather steep rolling grass, oak and brush-covered hills. The middle section flows thru Hicks Valley, a rather broad, open area of gentle gradient used mainly as a permanent pasture for cattle. The lower section is a series of long, narrow valleys-interlaced with narrow canyon sections in an area surrounded by rather steep grass and brush-covered hills.

Immediate Drainage Basin - Headwater sections are mainly of the steep, narrow, gully type, heavily over-grown with brush and

willow. Middle section in general Hicks Valley area open, exposed sections with little stream side cover except for a few scattered willows. The lower section is alternating incised-canyon type with moderate to heavy stream side willow growth. Altitude - 200 to 1,000 ft.

Gradient - Moderate in headwaters section, general throughout remainder of the stream.

Width - Dry at time of survey in this exceptionally dry water year. Dry, except for standing pools throughout most of its length in this exceptionally dry water year but width of channel varies from 5 to 150 ft. with an average of about 25 ft. at high water mark.

Depth - Dry except for intermittent pools. Average depth to high water mark about 4 - 5 ft.

Flow - Dry throughout most of area but intermittent in some sections at time of check.

Bottom - Mostly gravel and sand up to 3 inches in size but also with mud and silt in some areas.

Spawning Areas - Abundant and good at high water levels throughout most of stream. Estimate 85-90 percent of stream suitable for spawning by anadromous fish.

Pools - Moderately numerous but most are rather small, and not very deep. Few observed over 2 feet deep.

Shelter - Rather scarce, limited to mainly willow roots and overhanging branches.

Barriers - None observed.

Diversions - Domestic wells observed immediately adjacent but not directly in stream. Numerous springs had been diverted to supply stock watering tanks. Several farm ponds are located on small intermittent tributaries to the stream.

Temperature - Surface reading in a small shaded standing pool at 2 p.m. on 12-14-59 was 50°.

Food - Moderately plentiful in existing pools.

Aquatic Plants - Heavy algae growth in most pools and seeps. Sedges also present in some areas.

Winter Conditions - Heavy fluctuation during the winter rainy season.

Pollution - Considerable pollution noted from dairy ranches all along the stream. Includes both pollution from barnyard waste being drained directly into the stream and also by stock using the stream bed for grazing. Over-grazing of range has also caused excessive erosion in many sections.

Springs - Fairly plentiful but most have been diverted into stock tanks or are used for domestic purposes.

FISHES PRESENT AND SUCCESS: Threespined sticklebacks (1-2 in.), and small Cyprinids species unknown (1-2 in.) were the only species found. Fishlife was quite scarce in all areas checked, usually being limited to less than one or two dozen fish in the larger pools. Ranchers reported large numbers of steelhead (?) were reported lost this summer by the drying of many sections of the stream.

OTHER VERTEBRATES: Frogs in moderate numbers were observed. Ranchers report racoon, fox, bobcat and deer to be rather numerous in the general area.

FISHING INTENSITY: Open to both summer trout and winter steelhead and salmon fishing. This stream is entirely on private property, closed to the public so fishing pressure is very light. Creel censuses conducted on the tide water section of this stream in the winter of .1954-55 show this section received heavy winter use in the steelhead season.

OTHER RECREATIONAL USE: Some hunting is permitted in this area by persons acquainted with the landowners.

ACCESSIBILITY: Most of the stream is accessible from roads which parallel it, except for a two-mile gorge section which starts approximately 1 mile upstream from the mouth. The extreme headwater section are also inaccessible except on foot.

OWNERSHIP: All under private ownership.

POSTED OR OPEN: The whole area is posted against hunting or tresspass.

IMPROVEMENTS: None observed.

PAST STOCKING:

GENERAL ESTIMATE: Historically Walker Creek of which Sausal Creek is a tributary was reported to be an excellent spawning and nursery area for both steelhead and silver salmon. I was informed that 40-50 years ago it was sometimes difficult to cross the stream in a horse and buggy because of the large numbers of fish running in the spawning season. Local residents interviewed report there has been a continuous decline in the fishery for the last 10 years. Inspection of the stream disclosed several factors are probably responsible for the decline of the fishery in this stream.

They are: (1) excessive erosion caused by over-grazing of the watershed by dairy cattle and sheep; (2) pollution from waste products from dairy barns flowing directly into the stream and also by cattle grazing in the stream bed; (3) reduction in summer stream flows caused by cumulative effect of many small diversions such as wells or diversion of springs for domestic or stock use.

The 1959 season which is one of the driest on record caused many sections of this stream which normally have small summer flows, to go dry. This caused the loss of large numbers of juvenile steelhead and other species. In years of normal stream flow this stream should be a fair spawning and nursery area for steelhead and silver salmon. Steelhead are known to spawn at least as far upstream as the Lincoln School and the Pt. Reyes-Petaluma road crossing. It is the writer's opinion that fish utilize an area extending approximately 2-3 miles above this point.

General Estimate Continued:

A 2-mile long unnamed tributary (T4N, R8W, Sec. 30) known locally as Black Creek, has a rock falls near its mouth which is reported to be impassable to steelhead. It is also reported that a small resident trout fishery is in the stream.

Another small 1.6 miles long unnamed tributary (T4N, R8W, Sec. 32) is utilized as a spawning area by steelhead.

Construction of the proposed Sausal Creek dam near the mouth of this stream would completely block entrance to anadromous species.

RECOMMENDED MANAGEMENT: This stream should be managed as a salmon-steelhead spawning and nursery area as long as it is available to them. Clean-up of dairy pollution should also be attempted. In the writer's opinion this stream is one of the most important salmon and steelhead spawning and nursery areas in the Walker Creek drainage. It should therefore be maintained for this purpose in the future. Clean up of the dairy pollution should be attempted.

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6/18/62

If the proposed Sausal Creek dam is constructed it will completely block off this tributary to salmon and steelhead and would cause the loss of approximately 10-12 miles of fair to good spawning and nursery areas. Compensation requested for this lost spawning and nursery area should be in the form of downstream flow releases. It is the writer's opinion that a summer flow of approximately 3 cfs would be required in order to maintain a steelhead and silver salmon nursery area below the mouth of Sausal Creek. Increased flows would be required in the winter period in order to permit upstream migration of adults to the spawning area. Recommended for releases are as follows: May 1 to Nov. 1, 3 cfs; Nov. 1 to May 1, 6 cfs.

SKETCH MAP: See attached.

REFERENCES AND MAPS: US Dept, of Commerce, Bureau of Public Road, county road system map, Marin County, 1954, USGS Quadrangle maps, 7.5 minute series (topographic): Tomales, California Quadrangle; Pt. Reyes NE, Calif. Quadrangle; Petaluma, California Quadrangle; San Geronimo, California Quadrangle.

J. T. Allen/ed