

THE RESOURCES AGENCY OF CALIFORNIA  
CALIFORNIA DEPARTMENT OF FISH AND GAME

**STREAM SURVEY**

File form No \_\_\_\_\_ Date: June 15, 1976

Name: First Valley Creek County: Marin

Stream Section: entire From: from principal headwaters To: mouth Length: 1.9 mi.

Tributary To: Tomales Bay Twp: \_\_\_\_\_ R: \_\_\_\_\_ Sec: \_\_\_\_\_

Other Names: Inverness Creek, Loch Ness Creek River system: Independent stream

Sources of Data: Personal observations

**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** - On 10 June 1976, First Valley Creek was surveyed on foot by Seasonal Aids Ron Curtis and Gary Scoppettone. The stream was surveyed from the middle reaches of the three principal headwater tributaries to the mouth. (Reference map attached.)

**LOCATION** - First Valley Creek flows from west to east through the town of Inverness on the Pt. Reyes Peninsula and empties into Tomales Bay.

**RELATION TO OTHER WATERS** - First Valley Creek is a springfed perennial stream having confluence with Tomales Bay. Fish Hatchery Creek to the south supports a resident rainbow trout population. First Valley Creek and Second Valley Creek to the north appear to support steelhead trout resources.

**Watershed and Immediate Drainage Basin** - The watershed is comprised of mixed woodland and chaparral biotic communities. First Valley Creek's immediate drainage basin encompasses approximately 0.95 square mile. Its major headwater tributaries form steep-sloped V-shaped canyons. The mainstem basin is narrow, but U-shaped. At Sir Francis Drake Highway the stream traverses the narrow flatland adjacent to the west shore of Tomales Bay. The mainstem creek and its principal tributaries are lined with lush riparian vegetation, dominated by lady fern, wild berry, alder, elderberry, mint, nettle, and tanbark oak.

**Altitude** - 8 ft. near the confluence with Tomales Bay at Inverness, and 170 ft. at the major fork of its two headwater tributaries (see reference map). The elevation of the headwater sources averaged approximately 500 ft.

**Gradient** - Averages 1139 ft. per mile from the source of the headwaters to the stream's major fork (0.29 mi.); and 249 ft. per mile from this fork to its mouth (0.65 mi.).

**Width** - Ranged from 1 to 6 ft. and averaged approximately 3 ft.

**Depth** - Ranged from 0.1 to 2.5 ft. and averaged approximately 0.25 ft.

**Flow** - The flow was determined by capturing water in a 5 gallon bucket below an elevated pipe culvert (site #1) and recording the time it took for the bucket to fill. Ten trials taken 10 June 1976 gave an average of 0.07 c.f.s.

**Velocity** - Average stream velocity was moderate.

**Bottom** - Bottom substrate along the mountainous segment of the stream is primarily of granite base consisting of approximately 40% rubble, 30% gravel and 30% sand. Most of the rubble is restricted to the upper reaches of the stream.

**Spawning Areas** - The coarse, heavy and compacted gravel and rubble bottom provides fair salmonid spawning conditions.

**Pools** - Pools are a definite limiting factor. The only well-defined natural pool observed measured approximately 6 ft. in diameter, and was 2.5 ft. in depth with moderate undercut banks (site #1). The pool was situated at the discharge end of Laurel Rd. culvert. The low stream flow and relatively straight stream channel provide little or no pool habitat. Pools approximately 6 ft. in diameter and 2 to 3 ft. deep were impounded by diversion dams located on the stream's southern tributary (site #2 and #3). The pool:riffle ratio approximated 5:95.

**Shelter** - Dense overhanging terrestrial vegetation providing shade represents the only shelter available along most of the stream's length. Long reaches of exposed shallow riffles characterize the stream. Shelter provided by deep water is almost nonexistent due to an absence of pools. Instream shelter and cover areas are lacking.

**Barriers** - No significant barriers were observed in the mainstem of First Valley Creek. A series of 5 bedrock falls extending 20 ft. and ranging from 3 to 7 ft. in height, was noted in the stream's northern tributary (see reference map). These falls probably restrict fish passage. An impoundment created by a 5 ft. high concrete dam and enclosed by a shingled roof with wire screen sidings blocks all fish passage at site #2 on the principal southern tributary.

**Diversions** - No recent diversions were noted along the mainstem of First Valley Creek. A series of gravity-fed diversion dams were noted in the headwaters of the south fork of First Valley Creek (site #2 and #3). These diversion dams, operated by Inverness Water Company, feed water through several 6-inch diameter metal pipes to a pumping and filtration plant. Several of these diversions were recently constructed and/or repaired.

Inverness Water Co. apparently is capable of diverting virtually the total flow of water from the south fork of First Valley Creek through these diversion operations.

**Temperatures** - June 10, 1976

Location	Time	Air	Water
Laurel Rd. crossing (site #1)	1145	54°F	52°F
Immediately below Sir Francis Drakes Highway	1345	59°F	54°F

**Food** - First Valley Creek supports a fair amount of potential salmonid food. Adult midges occurred in large swarms just above the steam. Isopods were found under stones along the stream's edge. Amphipods, mayfly larvae, damselfly and stonefly niads were found in the stream.

**Aquatic Plants** - Along its mountainous course, the stream is shaded by a thick riparian canopy and supports very little aquatic vegetation. The exposed reach below Sir Francis Drake Highway supports some aquatic growth.

**Winter Conditions** - Erosion marks indicate about a 1 foot rise in depth during winter runoffs.

**Springs** - The two major tributaries of First Valley Creek are spring-fed. No significant springs were observed along the mainstem of the creek. Tributary springs appear to support a perennial streamflow along the mainstem creek to Tomales Bay in most years.

**FISHES SPECIES** - Only one salmonid was observed during the survey. This was a 3.5-inch FL individual, and was probably an age I fish. Intense predation due to low streamflow and a paucity of shelter, may account for the scarcity of salmonids. Also, the stream's existing physical features may necessitate seaward migration after the first year of life. There may be insufficient habitat to support larger, Age II fish. Apparently, 1975-76 winter flows were insufficient to permit successful salmonid migration and spawning. No young-of-the-year salmonids were observed.

The 1975-76 winter season was one of the driest in California history.

Numerous Staghorn sculpin were observed in the reach downstream from Sir Francis Drake Highway Bridge.

**OTHER ANIMALS** - (Birds) Swainson's thrush, song sparrow, chestnut-backed chickadee, western robin, ash-throated flycatcher, violet green swallow, Stellar's jay, house finch; (Mammals) gray squirrel; (Herptiles) newt, and garter snake.

**FISHING INTENSITY** - Unknown.

**OTHER RECREATIONAL USES** - The stream and its watershed retain much of their natural beauty, and are appreciated by local residents.

**ACCESSIBILITY** - Except for the exposed 50 yd. reach downstream from Sir Francis Drake Highway, thick riparian vegetation restricts easy access to the stream. There are no public roads leading to the headwater tributaries.

**OWNERSHIP** - Not determined. Apparently private ownership.

**POSTED OR OPEN** - The headwater tributaries are posted against trespassing. Inverness Water Company has posted their water diversion sites on the south fork.

**IMPROVEMENTS** - No structures or alterations dealing with fishery enhancement were observed.

**GENERAL ESTIMATE** - First Valley Creek may support a minimal anadromous salmonid resource, probably steelhead trout. Low summer flow, a lack of fish shelter and cover, and an absence of pool habitat greatly restrict the stream's potential salmonid nursery habitat. Spawning conditions are poor to fair.

**RECOMMENDED MANAGEMENT** - Fish populations should be sampled following years of normal rainfall and runoff. First Valley Creek tentatively should be considered as supporting a migratory salmonid resource. Headwater diversions may have a profound impact on the stream's fish carrying capacity. Operational procedures of the Inverness Water Company should be investigated. Excessive water diversion should be discouraged. Salmonid carrying capacity could be significantly enhanced by providing pool habitat and fish shelter.

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Region 3



