

SNUFFINS CREEK

Stream clearance - from confluence of Dougherty Creek
T15N, R14W, S10 - upstream 1 mile.

Stream survey of 6/9/66 (John Thomas) - two complete barriers
now exist. There are at least 10 problem log jams between
stream mouth and second bridge.

Big River in Jackson State Forest was finished In September, 1959.

The entire stream clearance project terminated June 30, 1963.
Project cost \$16,382.38.

The headwaters of Big River were to be cleared by the Willits
Redwood Products company and was to continue for several years,
cost was bourne by the Company.

Snuffins Creek is a trib to Dougherty Cr. which is trib to
South Fork of Big River.

Snuffins Creek *

Number of Log Jams removed 8

Miles of stream improved 2.0

Cost \$2,006.43

*This information obtained from Jerry Holman's report of July 26, 1966

STREAM SURVEY - SNUFFINS CREEK

NAME OF STREAM - Snuffins Creek COUNTY - Mendocino

STREAM SECTION - From confluence at Daugherty Creek (T15N, R14W, S10) to point 1/4 mile above section line dividing sections 2 and 3 in R14W, T15N.

LENGTH - 1 1/2 miles of stream section surveyed.

TRIBUTARY TO - Daugherty Creek (T15N, R14W, NW 1/4 of S10).
Daugherty Creek is a tributary of Big River.

OTHER NAMES - None known.

RIVER SYSTEM - Big River, Mendocino County.

SOURCE OF DATA - Personal observation by John L. Thomas, FB II.

EXTENT OF OBSERVATION - Surveyed on June 9, 1966. Four hours were spent making the survey. Survey made by John L. Thomas, Fishery Biologist II. Survey made on foot.

RELATION TO OTHER WATERS - The major importance of this stream is as a spawning ground and nursery area for steelhead trout.

It is an important tributary contributing approximately 2 1/2 miles of spawning and nursery area.

GENERAL DESCRIPTION

WATERSHED - The stream at its confluence with Daugherty Creek (El. 900 ft.) travels in a straight line north for 3/4ths of a mile, makes a bend toward the south, then travels more-or-less in this southerly direction to its headwaters (El. 2080 ft.). The stream rises approximately 150'/mile for the first two miles, then for the last mile of stream the rise is approximately 400'/ 1/2 mile. There has been recent logging activity in the drainage starting the late spring of 1965 and cutting is still in progress. Cutting is in virgin stands of redwood and douglas fir. At present, the stream is open its entire length with very little cover left along the stream. Other vegetation in the area includes tan oak, madrone, sword fern, star thistle, thimble berry. Soil appears to be the Hugo series with the parent material being sedimentary rocks on steep sloping canyon sides. The surface is light grey brown, and the subsoil a light yellow brown. The surface is loam, and the subsurface a loam and clay mixture. There is much erosion present on this soil in the entire drainage. The erosion has caused filling of the stream bed in many spots, and is most evident behind many small log jams causing total barriers for fish passage.

IMMEDIATE DRAINAGE BASIN -The basin comprises 2 sq. mi. It is a steep sided "V" shaped basin. The channel is more-or-less bowl shaped; however, it is incised in many spots where erosion and log jams are present. The streamside vegetation is very open

IMMEDIATE DRAINAGE BASIN (CONT.) -due to present logging activities, There are some scattered small redwoods offering shade to the stream. There is also an occasional alder, tan oak and douglas fir present along the stream. In all open areas there is an abundant growth of algae in the shallow higher velocity riffle areas.

ALTITUDE - At mouth 900 feet; at headwaters 2080 feet.

GRADIENT - 150 feet/ mile for the first two miles, then for the last mile of stream the rise is approximately 800 feet/ mile. The first two miles would be slight gradient. The last mile would be steep gradient.

WIDTH - The average width at the time of survey was 2 1/2 feet for riffles and 4 feet for pools.

DEPTH - The average depth at the time of survey was 2 inches for riffles, and 7 inches for pools.

FLOW - Summer minimum and winter maximum not known; however, the stream must run throughout the year due to the presence of yearling steelhead trout above present barriers caused by last winters rains. Flow estimated at the time of the survey was 2 cfs. The velocity in riffle areas was rapid (more than 1/2 foot/ second).

BOTTOM - Riffle areas the bottom is composed of fine and coarse gravels with a light covering of silt. These gravels are loose and not compacted; however, the silt covering greatly reduces the aquatic insect fauna. Pool areas the bottom is composed of coarse and fine rubble with moderate covering of silt. There is very small quantities of detritus in the pools. Occassionally where erosion of the stream bed has occurred some large boulders and bedrock has been exposed. This rock is covered with fine silt.

SPAWNING AREAS - Since the gravel in the stream bed is fairly loose, and this years fry is present in the stream, it appears that spawning areas are not a problem in the stream. The gravel particle size necessary for steelhead spawning is present in most all riffle areas, and the tail of pools.

POOLS - Pools are not to common (1/ 100 feet approximately). The pools appear to be in fair shape with food apparently a major problem for aquatic insects. The main cause of pools are log jams, or single logs wedged in the stream bed at right angles to the direction of flow. The average pool is 4 feet wide and 7 inches deep. A few pools were observed that were 6 to 7 feet wide and two feet deep. These were generally the result of a log jam that was silted in and the water dropped 3 to 4 feet digging out the pool. Most all pools were round in shape; that is, very few elongated pools were observed. The frequency of pools was 25% or less.

SHELTER - The main type of shelter found was under log jams or single logs. Some shelter was offered by tree roots from large redwood stumps growing at one time along side the main stream channel. In general, shelter was very poor.

BARRIERS - There are at least five log jams from the stream mouth to the first total barrier to upstream migration. The first total barrier is 0.1 mile above the mouth of the stream. All jams below are spaced 50 to 100 feet apart, the first jam being 100 yards above the mouth. The first 5 or so jams are not barriers at present, but they will probably silt in during next winters rain. There are several small log jams passible at present to fish above the first total barrier. However, there is another total barrier located at the second bridge crossing (Location just under the "i" in the word "Snuffins" on the 1959 Boonville U.S.G.S. quadrangle in T15N, R14W, S3). This barrier is a log 12" thick braced across the stream with heavy load of debris and silt behind. There is a 4 foot drop to the pool below with no good access for adult steelhead passage. There is a similar barrier 100 feet above the bridge. Small log jams are very common above the bridge; however, most at present look passable.

DIVERSIONS - None observed.

TEMPERATURES - Time 1200, Air temperature 73°F., Water temperature of Daugherty Creek above confluence with Snuffins Creek - 66°F., Water temperature of Snuffins Creek above confluence with Daugherty Creek - 62°F.

FOOD - Aquatics very poor. Aquatics present were Mayfly larvae, Caddis fly larvae, Dragonfly and Damselfly larvae, Whirligig beetles, Dyptera larvae and Water striders. Flying insects noted were Damsel fly, Dragon fly, Mosquito, California sister butterfly, Blue bottle fly, and a few other Dyptera. Very few terrestrial insects due to the exposed soil. General food estimate is very poor. Several rocks had to be picked up from riffle areas before aquatics could be found. Anything disturbing the water surface was immediately sought after by all fish in the area nearby.

AQUATIC PLANTS - Algae abundant in riffle open areas of stream where water is showing movement.

WINTER CONDITIONS - Unknown due to abnormally high winter flows during 1965.

POLLUTION - Severe logging damage with roads paralleling stream on both sides the first mile, and along one side the first 1 1/2 miles. There is a very large amount of slash and short cut pieces of redwood in the main stream channel forming semi-permanent and permanent barriers to fish passage. The roads and nearby skid trails are being eroded and filling in behind the log jams.

SPRINGS - None observed.

FISHES PRESENT AND SUCCESS - Steelhead trout present. There are two year classes presently in the stream. From the confluence of Snuffins Creek at Daugherty Creek to the first total barrier 0.1 mile upstream steelhead fry (mean fork length approximately 4.0 nun) are present (about 3 or 4 per small pool). Above the total barrier no fry exist; however, yearling steelhead 4 to 6 inches fork length are present from 1 per pool to 4 per pool. These yearling steelhead extend to below the second total barrier located at the second bridge crossing. This indicates that there was a total barrier to upstream migration the winter of 1964 at the second bridge, but in the winter of 1965 a new barrier was created 0.1 mile above the mouth.

OTHER VERTEBRATES - Frogs, Raccoon, Salamanders, Stellar jay, Turkey vulture, Deer.

FISHING INTENSITY - None

OTHER RECREATIONAL USE - hunting

ACCESSIBILITY - 22 miles behind locked gates on private logging road belonging to the Masonite Corporation. Road entrance is located along Hwy. 128 1 1/2 west of the town of Navarro (NW 1/4 of S13, T15N, R15W). From this point the main paved logging road is followed to T15N, R14W, S11, SW 1/4. Here a logging spur road goes directly to Snuffins Creek.

OWNERSHIP - Private. All Redwood timber and the land owned by Masonite Corporation, Ukiah, Calif. The present stands of Douglas fir are still owned by the Union Lumber Company and must be cut by 1970 after which, all timber will be owned by Masonite.

POSTED OR OPEN - Posted at all road entrances. Hunting by permit.

IMPROVEMENTS - The entire drainage is in need of improvement. Erosion should be checked where possible. Possibly the planting of fast growing alder or willow should be made along the stream to hold bank erosion and offer streamside shade to reduce water temperatures. Further, the slash should be removed from the stream channel. All log jams should be removed, and single logs causing barriers by backing up silt and creating impassable falls should be removed. There are at least 10 problem log jams between the stream mouth and the second bridge. Two of these jams are considered total barriers.

PAST STOCKING - This stream is not stocked.

GENERAL ESTIMATE - Fish production is mainly limited by lack of access into upper stream areas due to barriers caused by log jams filled with silt. Stream temperatures are too high due to lack of streamside cover. Erosion is a very big problem mainly due to road construction. There is very little aquatic food due to light covering of silt over riffle and pool areas. This stream at this time is in poor condition; however, steelhead fry and

GENERAL ESTIMATE (CONT.) - yearling's are present in small numbers for the first 1 1/2 miles of stream. These fish would only contribute to the sport fishery in Big River under the present regulations.

RECOMMENDED MANAGEMENT - This stream should only be managed for steelhead. Habitat improvement is the recommended management. The first step would be the removal of all log jams and barriers. Second, erosion should be checked where possible. This could be done by seeding with grasses, or planting of willow and alder along the stream to stabilize the stream banks, and at the same time offering streamside shade which would reduce water temperatures and inhibit algae growth. Meanwhile, fry should be netted from the stream near the mouth and planted above the barriers to cause less reduction in the 1966 year class. This would spread the nursery area over a 2 1/2 mile area instead of only the first 0.1 mile. Water requirements are at a minimum now to support the existing fishery. It is suggested that no water be diverted from this stream from May through December.

REFERENCES AND MAPS - U.S.G.S. quadrangles for Boonville (1959) and Navarro, -15 ' series. (1961)

