

## STREAM SURVEY - JOHNSON CREEK

NAME OF STREAM - Johnson Creek      COUNTY - Mendocino

STREAM SECTION - From mouth of Johnson Creek to 1200 foot contour interval near headwaters. A logging road that parallels the stream crosses the stream at the 1200 foot contour interval.

LENGTH - Approximately 2 miles

TRIBUTARY TO - Gates Creek, thence Big River via Daugherty Cr. The confluence of Johnson Cr. is located in the NE 1/4 of the NE 1/4 of T16N, R14W, S33.

OTHER NAMES - None known. RIVER SYSTEM - Big River, Mendocino Co.

SOURCE OF DATA - Data secured by personal observation of John L. Thomas, Fishery Biologist II.

EXTENT OF OBSERVATION - 5 hours spent walking along the stream by John L. Thomas on August 9, 1966.

RELATION TO OTHER WATERS - Johnson Creek contributes 1 1/2 miles of nursery and spawning area for steelhead, and 1 cfs of 59° F water to the Big River watershed system during the critical summer months.

### GENERAL DESCRIPTION

WATERSHED - The watershed is a moderately steep, heavily timbered, "V" shaped canyon. The vegetation is mainly redwood with scattered stands of Douglas fir. Tan oak and madrone are also present in small numbers. The soil appears to be the Hugo series in the timbered areas and has sedimentary rock for the parent material. It is easily erodible when the cover is removed. This is quite noticeable in the headwaters where logging occurred in the late 1950's or early 60's. There is some grassland soil near the mouth of Johnson Creek; however, it is presently in a stable condition--the hillsides being less steep here.

IMMEDIATE DRAINAGE BASIN - The approximate size is 3 square miles. The stream discharges in a general NW direction. The channel is more or less bowl-shaped with some meandering. At one time the channel was probably more incised; however, due to a railroad and a sluice dam put along the stream in the late 1800's or early 1900's, and a logging road put along the stream in or around the mid-1950's the stream has become more bowl-shaped. The streamside vegetation is abundant up to the 1040 foot contour interval, but has been removed above this point.

ALTITUDE - At mouth 750'; at headwaters 1360'.

GRADIENT - The gradient is 250'/ mile the first 1.5 miles above the mouth. The last 1/2 mile, or headwater area, is 480'/mile.

WIDTH- The average width is 2 feet for riffles and 3 feet for pools during the time of survey.

DEPTH - The average depth is 1-2 inches for riffles, and 8 inches for pools during the time of survey.

FLOW - Estimated flow at time of survey was 1 c.f.s. Minimum summer flows would be estimated at between 0.1 and 0.5 c.f.s.. The stream is presently intermittent in the area from the line dividing Sections 34 and 35 upstream to the headwaters.

VELOCITY - Sluggish: Less than 1/2 ft. per sec.

BOTTOM - The average bottom is composed of very little fine and coarse rubble; very little bedrock; moderate amounts of coarse gravel; and, a great deal of fine gravel. The upper areas in the logged section have a great deal more fine rubble and coarse gravel cemented in by silt and clay. Pools in the unlogged area have some sand and detritus. Riffles in the unlogged area are generally free of sand and detritus, and contain a great amount of fine gravel.

POOLS - Pools are in a ratio of about 1 to 3 to riffle areas. The pools are generally shallow and longer than wide. The pools are generally caused by digging action of the current as the stream meanders, and by some boulders, tree roots and stumps, and an occasional log laying crosswise to the direction of natural stream flow. Shelter is not very good as most of the pools are shallow and hiding areas in the pools are infrequent.

SHELTER - Most pools are open and devoid of hiding places. Since most pools are shallow protection is limited. Fish present are very spooky, and the slightest shadow or movement near them will send them frantically searching for cover.

BARRIERS - No barriers are present in the areas presently available to fish. In the upper headwater areas some log jams are present but they are above the nursery and spawning areas and are not causing a problem to the fish.

DIVERSIONS - None noted.

TEMPERATURES - Water 59° F.; Air 66° F. at 1030. Temperatures taken near mouth of Johnson Creek.

FOOD - Aquatics include caddis fly, mayfly and stone fly. Caddis fly appears to be the most plentiful (about 5-6 on 6" rocks in pools). Steelhead fry could be seen surface feeding. Mosquitos and adult Dyptera were abundant in the unlogged area.

AQUATIC PLANTS - Algae present in areas exposed to the sun and plentiful in the intermittent areas of stream flow in the logged section. The presence of algae in the unlogged area is rare.

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

POLLUTION - Some logging and road building pollution near the headwaters. The logging road travels along the stream from the mouth to the headwaters; however, it is well constructed in the lower and mid-stream sections and causes no fishery problem here.

SPRINGS - None noted.

FISHES PRESENT AND SUCCESS - Small numbers of steelhead fry (5-6 cm.) are present in the stream to the 960 foot countour interval. I believe they are mainly limited by lack of good shelter. They average about 1-2 per pool, and are occassionally seen feeding in riffle areas. There is also a native population of sculpins (maybe the prickley sculpin, as it is located in many of the coastal streams) present. There are about 1 or 2 per good sized pool . Their upstream limit appears to be about the same as the steelhead fry. They vary in length from 1-1/2 to 2-1/2 inches. Natural propagation for both species appears good.

FISHING INTENSITY - None.

OTHER RECREATIONAL USE - Hunting.

ACCESSIBILITY- The stream is accessible by private road through a locked gate. See sketch map and ownership for details- on directions to reach the survey area.

OWNERSHIP - Privately owned by the Masonite Corporation, Ukiah. Key to the locked gate may be obtained from John P. Sweeley, Assistant Forestry Manager, P.O. Box 268, Ukiah. Business phone is Homestead 2-2961. Home phone is Homestead 2-3304.

POSTED OR OPEN - The area is posted at the locked gate and along the road going up Daugherty and Gates Creek. Masonite Corp. may allow hunting permits into the area. The road shows much use after the opening weekend of deer season. There is some sign that the locked gate has been driven around by persons not in possession of a key.

IMPROVEMENTS - About all that can be done to the nursery area is to provide more shelter for the fish present. They are probably preyed upon by birds and raccoons due to the lack of shelter.

PAST STOCKING - None.

GENERAL ESTIMATE - The lower and mid-sections of Johnson Creek are the spawning and nursery areas. These areas are presently in good shape except for good shelter and hiding places for fry and yearlings. The stream is well shaded and water temperatures are suitable. No special problems were noted in this area.

RECOMMENDED MANAGEMENT - This stream should only be managed for steelhead, and the existing population of sculpins should be allowed to stay as they do not appear to compete with the steelhead. Some work might be done in the way of habitat improvement by improving shelter and hiding places along the stream. The minimum water requirements necessary in order to support the existing fishery is 1 c.f.s.. The fishery could be enhanced by adding 2 or 3 more c.f.s. during the critical summer months.

REFERENCES AND MAPS - USGS Boonville quadrangle, 15 minute series, 1959 edition.

