STREAM SURVEY

| FILE FORM No | |
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| NAMEPUDDINGCREEK | | COUNTY | MENDOCINO. | | _ |
|---|---|--------------|------------|------------|---|
| STREAM SECTION Entire From Mouth | | Ranch | _ | | _ |
| TRIBUTARY TO Not a Tributary: Flows int | o Ocean | Twp18 | N R 18 W | Sec1 | _ |
| OTHER NAMES NOT KNOWN | *************************************** | RIVER SYST | EM Pudding | Creek | _ |
| Sources of DataPersonal observation | and personal | l interviews | with local | residents. | |

EXTENT OF OBSERVATION Include Name of Surveyor, Date, Etc. LOCATION **AELATION 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 Aquatic Plants Winter Conditions POLIUTION
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RECOMMENDED MANAGEMENT
SKETCH MAP Pollution SKETCH MAP REFERENCES A AND NAPS

EXTENT OF OBSERVATION - Pudding Creek surveyed on foot from mouth on shore of Pacific Ocean to a large landslide on southwest slope of canyon, two miles above F. L. LeValley's Ranch, a total distance of 10.8 miles on 2 September, 1965, by E. R. J. Primbs.

LOCATION - Pudding Creek flows into the Pacific Ocean at the bridge crossing of Pudding Creek by Highway #1 at the northern city limits of Fort Bragg. The bridge is identified by the road sign "Pudding Creek." RELATION TO OTHER WATERS - Provides 8.8 miles of excellent spawning grounds and 10.8 miles of fair nursery grounds for SS and SH immediately adjacent to ocean waters.

GENERAL DESCRIPTION

Watershed and Immediate Drainage Basin - Size: 9.9 square miles; Pudding Creek flows from numerous springs on the slopes of Ramsey Ridge approximately due west: according to Bob Grundman and Jim McGuire, Aborigine is currently logging in gulches adjoining Pudding Creek (Mazzetti is cruiser for Aborigine), and Union logged just below Glenblair this spring. Grey Company may be currently logging in area; Grey did log two years ago on Pudding, according to McGuire and Aborigine logged one year ago at Woodward's, according to Mr. Woodward; slopes gradating from gentle 40 degree inclined narrow valley at mouth to steep 60 degree-70 degree V-shaped canyon at headwaters; shallow, surface

stablized 30 foot wide stream channel to LeValley and thence 3-8 foot wide, shear soil incised, deep ditch; stream shade 70 per cent primarily from mature trees to LeValley and thence from thickets, shrubs and -vines: red alder, alder and redwood common with cattail and water plants (water cress and another unidentified species) in estuary and poison oak along stream channel above LeValley but metal, blackberry, and bracken fern general throughout.

<u>Altitude</u> - At mouth sea level, at upper limit of survey (landslide as described above) 400 feet.

<u>Gradient</u> - 37 feet per mile to upper limit of survey (landslide as described above).

<u>Width</u> - Section 1 (mouth to railroad tunnel) average 100 feet with range from 12 feet to 300 feet. Section 2 (railroad tunnel to LeValley's Ranch) average 12 feet with range from 2-1/2 feet to 24 feet. Section 3 (LeValley's Ranch to landslide) average 3 feet with range from 1 foot to 8 feet.

<u>Pepth</u> Section 1 (mouth to railroad tunnel) not known, but current flashboards dam are 6 feet high. Section 2 (railroad tunnel to first bridge crossing of Pudding Creek by Glenblair Road) average 1-1/2 feet with range from 2 inches to 7 or more feet. Section 3 (first bridge crossing of Pudding Creek by Glenblair Road to LeValley's) average 4 inches with range from 2 inches to 4 feet. Section 4 (LeValley's to upper limits of survey) average 2 feet with range from 2 inches to 5 or more feet.

Flow - Not measurable at mouth; 1.5 cfs. at railroad tunnel below Noyo inflow; .4 cfs. at mouth of Little Valley Creek; .5 cfs. 200 feet below landslide described above. <u>Velocity</u> - Sluggish to slow. Bottom Coarse gravel 50 per cent, fine gravel 40 per cent, mud 10 per cent.

Spawning Areas - Section 1 (from railroad tunnel to Woodward residence) 70 per cent
of winter bed (230,000 and 160 square feet). Section 2 (from Woodward residence to
landslide described above) 10 per cent of winter bed (2,900 square feet).

Pools - Ninety-five per cent of summer flow: because of abnormally slight gradient,
any barrier to flow tends to cause long, deep pools.

Shelter - Adequate from roots, overhanging vegetation, undercut banks and logs.

Barriers - Except for large concrete dam 1/2 mile upstream from mouth, all barriers are above Skunk Train tunnel entrance on Pudding Creek, the largest and most serious of these barriers being between the tunnel and first bridge crossing of Pudding by Glenblair Road. Partial barriers: No. 1--60 foot concrete, flashboard dam, 1/2 mile upstream from mouth—on 2 September 1965, dam was 6 feet high. Fish ladder (10 feet wide) maintained by the Department of Fish and Game (constructed in 1953); maximum width of lake above dam is 300 feet, narrowing to average of 100 feet; length of dam water is approximately upstream to railroad tunnel, a distance of 2-1/2 miles. No. 2--25 log jams including these: (a) #3: 75 feet long, 40 feet wide and 10 feet high, (b) #6: 75 feet long, 50 feet wide and 10 feet high, (c) #7: 100 feet long, 50 feet wide and 15 feet high, (d) #16: 50 feet long, 30 feet wide and 6 feet high.

<u>Diversions</u> - No. 1--inflow into Pudding (a) nine inch pipe through Skunk railroad tunnel from Noyo River to Pudding. On 2 September 1965 the pipe was carrying about 1/2 of its capacity. No. 2--outflow from Pudding (a) eight inch pipe from pump at dam 1/2 mile upstream from mouth for debarker at Union Lumber Company plant at Fort Bragg; capacity of pump unknown (Bob Grundman of Union could not, or would not, give quantity of water used). Diversion owned and operated by Union; (b) portable pump with 2-1/2 inch fire hose and 4 inch suction pipe for logging road water diverted from Pudding at mouth of tributary which flows southeast, .9 mile below Glenblair; (c) portable pump with 1 inch pipe for watering lawn and garden at Woodward's residence (2 acres) (domestic water is obtained from well) diversion located 1.1 miles east of mouth of Little Valley Creek, and owned and operated by Woodward.

<u>Temperatures</u> - Maximum at Skunk Train tunnel at 9:30 on 2 September 1965: water 59 degrees Farenheit, air 58 degrees Farenheit; weather: overcast, wind 1-3 miles per hour; altitude 15 feet.

 $\underline{\text{Food}}$ - None observed: The almost total absence of riffle areas does not favor the deposition of insect eggs in stream.

<u>Aquatic Plants</u> - Spotted growth of algae and liverworts; unidentified water plants in esturary.

Winter Conditions - Four feet to six feet above summer level.

Pollution - Stream used by McGuire's cattle; also some silt from logging operations.

Springs - Pudding Creek originates from numerous small springs on north slope above landslide described above. Three springs observed between mouth and landslide.

FISHES PRESENT AND SUCCESS - No. 1--SS (size: 1-1/2 inches to 4 inches, average 2 inches) 180 per 100 feet. No. 2--SH (size: 1-1/2 inches to 2-1/2 inches, average 1-3/4 inches) 120 per 100 feet. No. 3--Three-spined stickleback (size: 2 inches) 6 caught. The long deep pools of murky, shaded water renders the estimation of fish population impossible in the 2-1/2 mile section above dam and extremely difficult in the remaining sections. Of 95 fish caught and positively enumerated and identified, 50 were silver salmon,

39 were steelhead, and 6 were stickleback. The salmon and steelhead were abnormally small, undoubtedly because of the low water temperatures and the scarcity of food. They also appeared to have reduced stamina when netted and handled.

OTHER VERTEBRATES - Frogs.

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FISHING INTENSITY - Six or seven children were fishing in lake above dam at time of survey, and Bob Grundman and Jim McGuire reported considerable amount of poaching on stream.

OTHER RECREATIONAL USE - Deer hunting on Union Lumber Company land..

ACCESSIBILITY - Accessible at mouth by Highway #1 at the bridge crossing of Pudding Creek by Highway #1 on the northern city limits of Fort Bragg. Accessible from mouth to railroad tunnel by Pudding Creek road which joins Highway #1 from the east on the north side of the bridge of Highway tll over Pudding. Accessible from the railroad tunnel to the first bridge over Pudding Creek on the Ramsey Ridge Road (Glenblair Road) by McGuire logging road which joins Pudding Creek road at the end of Pudding Creek road. Accessible from first bridge crossing by Ramsey Ridge Road to headwaters by the Ramsey Ridge Road (Glenblair Road) which joins the Sherwood-Fort Bragg Road, which enters Oak Street in Fort Bragg, 2.3 miles from the city limits of Fort Bragg an iron bar gate, which may be locked, and a sign "Let's all Prevent Forest Fires" mark this junction. The Ramsey Ridge Road along Pudding Creek may also be reached by a Union Lumber Company logging road which joins the Sherwood-Fort Bragg Road at the end of the pavement of the Sherwood-Fort Bragg Road, 4.3 miles from Fort Bragg, where there is a junction of 5 roads. The Union Lumber Company road is the one on the north side without the sign.

OWNERSHIP - Section 1 (from mouth to railroad tunnel) primarily small residential lots. On north side of stream, Dick Mattilla, employed at Coop Store, Redwood Avenue, and MacPherson, Fort Bragg, owns land from tunnel to about a mile downstream from tunnel. Bob Grundman, Union Lumber Company, Fort Bragg, owns 30 acres on south side, also near tunnel. Section 2-(from railroad tunnel to Glenblair) Jim McGuire, cattle rancher, who resides at end of Bald Hill Road, Fort Bragg. Section 3(from Glenblair to F. L. LeValley's Ranch and above F. L. LeValley's) Union Lumber Company, Fort Bragg. Section 4 (F. L. LeValley's Ranch and vicinity) Mrs. F. L. LeValley, R. Woodward (2 acres) brother to LeValley and Stenbergs (6 acres) also related to LeValley.

<u>POSTED OR OPEN</u> - All land posted, but closure is nominal except on McGuire's and LeValley's land. Grundman of Union Lumber said that Union enforces closures only when trespassing interferes with a particular operation. McGuire is aware of poaching on his land, but considers the time consuming process of enforcing closure generally impractical.

IMPROVEMENTS - Removal of 23 log jams between railroad tunnel and LeValley's-Union Lumber Company upper property line, 1 mile upstream from LeValley's Ranch house, a total distance of clearance of 6.9 miles.

<u>PAST STOCKING</u> - Bob Grundman of the Union Lumber Company stated that the Department has planted silver salmon in Pudding in recent years.

GENERAL ESTIMATE - A number of factors have combined, some favorable others disadvantageous, to develop Pudding Creek as an excellent spawning ground, but poor nursery area: the large winter influence into the stream, the long deep estuary, and the almost total limitation of bottom type to coarse gravel and fine gravel have all contributed to the stream's spawning ground capability; on the other hand, the large dam, numerous log jams, some of very large magnitude, and abnormally slight gradient with consequential absence of summer riffles have all operated either to limit spawning or to handicap nursery. The section of the stream possessing value as a spawning and nursery area lies between the railroad tunnel and the upper property line between LeValley and Union Lumber: below this section lies only an estuary and the dams backwaters, neither of which are conducive to hatching and rearing of parr; above this section, the stream becomes a narrow, deep soil incised water course with negligible spawning gravel, populated by parr but in considerably

reduced numbers. In the central section, the winter riffle area over excellent gravel is extensive, a characteristic which has attracted vast numbers of silver salmon and steelhead, notwithstanding the large log jam obstacles: thus the stream sustains a very large summer population of parr. The absence of summer riffle areas, however, has precluded the availability of food in the form of insect larvae and the parr are consequently of small size and poor stamina.

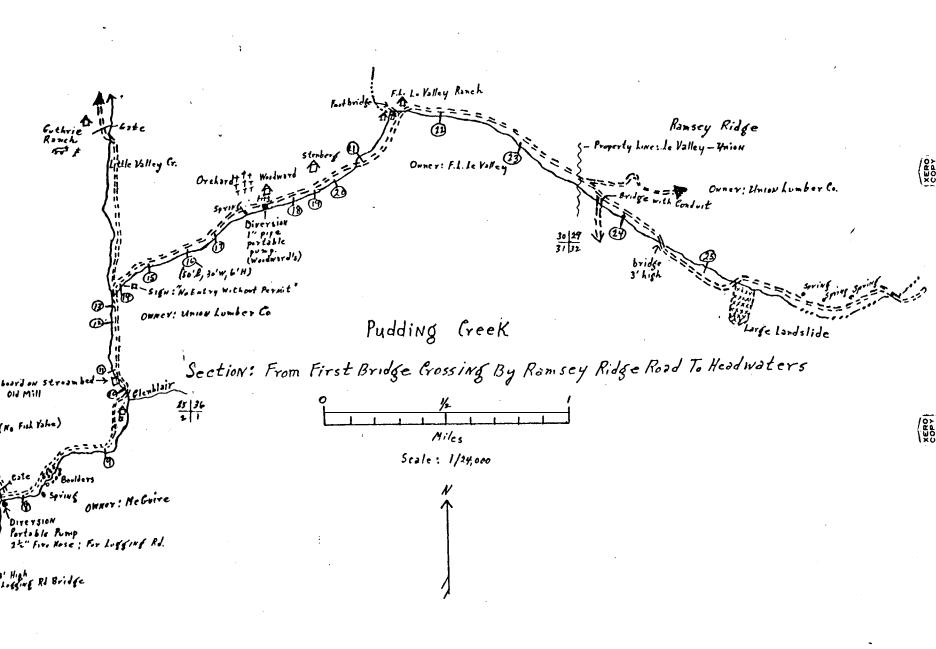
RECOMMENDED MANAGEMENT - Pudding Creek should be managed for silver salmon and steelhead spawning and nursery. The 23 log jams delineated under "IMPROVEMENTS" above should be moved to improve fish access to and traffic in stream and to increase the velocity throughout out. Although a few fish are utilizing and populating stream above LeValley-Union upper property line, clearance of the few log jams in this section is not warranted, since the task of cutting crew access through the extremely densed thickets covering the stream in this area to remove the few small partial log jams, would far exceed in value the small fishery benefits derivable from such action.

SKETCH MAP- See attached.

REFERENCES AND MAPS - From U.S.G.S. (Fort Bragg 1960) 7-1/2 minute series; U.S.G.S. (Comptche 1960) 15 minute series; Division of Forestry map--Mendocino Ranger Unit--1950.

Edward R. 3. Primbs/bg 7 September 1965

Typed Dec. 20, 1965



KERO

Pudding Creek

Section: From Mouth To First Bridge Crossing By Ramsey Ridge Road

