

NAME: Redwood Creek COUNTY: Marin
 Upper limits of migratory
 STREAM SECTION: FROM: Ocean TO: Upper limits of migratory fish LENGTH: 6 miles
 TRIBUTARY TO: Pacific Ocean TWP: 15 R: 6W SEC: 7 projected
 OTHER NAMES: Muir Woods Creek RIVER SYSTEM: _____
 SOURCES OF DATA: U.S.G.S. - Tamalpais Quadrangle

- EXTENT OF OBSERVATION
- Include: Name of Surveyor, Date, Et
- LOCATION
- RELATION TO OTHER WATERS
- GENERAL DESCRIPTION
- Watershed
- Immediate Drainage Basin
- Altitude (Range)
- Gradient
- Width
- Depth
- Flow (Range)
- Velocity
- Bottom
- Spawning Areas
- Pools
- Shelter
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- PAST STOCKING
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- RECOMMENDED MANAGEMENT
- SKETCH MAP

EXTENT OF OBSERVATION - Car used, inspected at mouth + approx every 1/4 mile to monument. One day spent surveying subject stream on March 21, 1956 in the company of Evans, Fisher, Pintler and Allen.

LOCATION - A small coastal stream approximately 10 miles north of the Golden Gate on the Pacific Ocean. The stream rises on the western slopes of Mt. Tamalpais, then flows in a southwesterly direction for approximately 4 miles, then flows due west into the Pacific Ocean at Muir Beach.

RELATION TO OTHER WATERS - This stream is not in direct relation with any other waters.

GENERAL DESCRIPTION

Watershed - The upper two-thirds of the stream is in a redwood forest type. The trees associated in this forest type are predominantly redwood, tanbark oak, California laurel, and a few Madrone trees. The important shrubs found in this forest type were California lilac, hazel and creek dogwood. The mentioned trees and shrubs provided an almost dense shade for the upper two-thirds of the stream. The lower section or one-third of the stream was in an open coastal flood plain. The shade for the creek in this area was provided by willows and alder.

Altitude - From sea level to approximately 400'.

Gradient - From the ocean to the lower end of Muir Woods National Monument the gradient was moderate. Riffle areas were noted about a quarter of a mile apart. From Muir Woods to the upper limits of the steelhead, the gradient was moderate to steep. (A few areas where migratory fish could pass were noted to be steep.)

Width - The stream in the lower third averaged from 3' to 6' in width. The upper 2/3 varied from 10' to 3'.

Depth - The average depth was noted to be 4" to 6".

Flow - 8 cfs down to 3 cfs in the State Park,

Velocity - ~~Moderate throughout with only a few exceptions. slow to torrential. average could be considered rapid. Lower part slow to rapid. upper part rapid and cascades extreme upper parts torrential~~ intermittent to several 100 CFS in winter-2-6 CFS in the monument during the spring.

Bottom - Fair Spawning gravel from lagoon upstream to Muir Park National Monument. From Muir Park to upper limits of migratory fish excellent spawning gravel and rubble were noted from Muir Park to the upper limits of migratory fish. Predominately sand and gravel - bottom noted to be stable. boulders and bed rock noted in upper reaches.

Spawning Areas - Adequate spawning areas were noted from Tidewater to the upper limits of migratory fish. The best spawning areas were noted from the lower limits of Muir Park upstream.

Pools - The pools in this stream were small and poorly developed with the exception of a few in Muir Park and in the State Park.

Shelter - ~~Excellent.~~ Adequate for juvenile migratory fish. The stream possessed many banks that were undercut and had good shaded sections. a few logs were also noted to provide shelter

Barriers - A barrier was located on the main stream approximately 6 miles above tidewater. This barrier was located in the State Park and consisted of a series of steep falls. This is the approximate upper limits of migratory fish. A log jam was noted approximately a quarter

of a mile up Fern Creek, a tributary of Redwood Creek. This log jam is not stopping fish at present but perhaps will prove to be a barrier to fish in the future. If this does become a barrier there will be less than a quarter of a mile of stream available to migratory fish above it.

Diversions - Three irrigation diversions were reported in the lower $\frac{2}{3}$ of the creek. These diversions are for summer irrigation of pastures. A diversion of approximately $\frac{1}{2}$ cfs is located at the head of Fern Creek. This is a year round diversion and is one of the Marin Municipal Water Company's.

Temperatures - None taken. Not critical time of year for temperatures.

Food - Caddis Fly larvae were noted on rocks in the lower section of the stream.

Aquatic Plants - None.

Winter Conditions - ~~This stream is affected by all rains and is easily sent into a flood condition. It is reported however, that within 20 minute after a rain stops, the stream will start clearing and it will recede within its banks.~~ A stable stream - average rainfall 40" stream reseeds soon after a rain.

Pollution - Manure pollution has been reported in the agricultural section of the creek. However, this condition has been abated by the Regional Pollution Control Board and the local fish & Game warden.

Springs - None located.

FISHES PRESENT AND SUCCESS

FISHES PRESENT AND SUCCESS - The following fish were reported to be present: RT-SH, SS, and stickleback. It was reported to us that large runs of SS enter this stream, usually after the first heavy rain which opens the lagoon to the ocean. Silver salmon are reported to spawn throughout the drainage and use Muir Woods Nat'l Mon. as their principal spawning area. Young salmonids 1 $\frac{1}{2}$ " to 2" were noted in the Muir Park and lower stretches of the stream. - heavy loss of juveniles in agri area in summer. A few small salmonids were observed near Muir Beach.

Steelhead are reported enter the creek around Christmas of each year and are reported to spawn in the lower section of the stream as well as in the park area. It is reported that they use the park area to a greater extent than the lower section of the creek. It was reported by Evans and the Park Ranger that large concentrations of juvenile steelhead and salmon can be observed during the summer months in Muir Park. Stickleback - No information other than they were present was obtained.

OTHER VERTEBRATES - Redleg frogs were noted in the lower $\frac{1}{3}$ of the creek.

FISHING INTENSITY - This water receives heavy pressure for the first few days of trout season each year between the lagoon up to the lower limit of Muir Park. A limited trout fishery is reported to exist in the State Park area of the creek. - very small winter fishing in tidewater

OTHER RECREATIONAL USES - It has been reported that thousands of people come to Muir Woods each year to observe the steelhead and silver salmon spawning. The Park Ranger reported an average of 17,000 people visiting the park in January and 24,000 visiting the park in February. These figures are quite impressive and show that this fishery has great esthetic value.

ACCESS - The creek is accessible by the hard-surfaced road paralleling it from the mouth upstream for 3 miles. Good trails make it very accessible within the National Park and State Park.

OWNERSHIP - The lower 1/3 of the creek is under private ownership. The upper 2/3 is owned jointly by the National Park and State Park system.

POSTED OR OPEN - The water is open to fishing from tidewater upstream to the National Monument and then open in the State Park. The stream that is privately owned is not posted but is fenced.

IMPROVEMENTS - This water needs few, if any, improvements as there was no extensive erosion noted or over-grazing of the watershed. Some program could be adopted to keep garbage out of the creek by the general public and to keep the farmers from using the creek and its tributaries as a dumping spot. This ~~water~~ Creek has rip-rap in Nat. Monument area to maintain channel. work done by the CCC in the 30'.

PAST STOCKING - No information.

GENERAL ESTIMATE - This is a small, coastal stream that provides a nursery ground for a number of steelhead and silver salmon. It is small in comparison with other coastal stream in Region III. ~~however, according to reports from residents of the area, perhaps contributes to the general steelhead and silver salmon fishery on a small scale.~~ A (sic) stream at present, undisturbed by man's activities.

RECOMMENDED MANAGEMENT - The present fishing regulations are adequate. Careful watch should be maintained on this stream to protect the spawning steelhead and silver salmon during the winter months as they provide great recreation to many visitors to Muir Woods Nat. Monument ~~Park~~. During dry years these streams should be inspected to see if fish rescue is necessary in the lower reaches of the creek. It is reported many juveniles are lost yearly below Muir Woods Nat. Monument ~~Park~~ to tidewater.