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REPORT ON TEMPERATURE SERIES ON TAMARACK CREEK, MONTCALM COUNTY

by  
David S. Shetter

On August 1, 1940, Tamarack Creek was cruised, and temperatures were taken upstream and downstream for a distance of at least four miles in each direction from Howard City. No seining was done, but all species of fish observed at the several localities were identified as accurately as possible with the aid of Polaroid glasses. The following information was noted at the several points.

A. Tamarack Creek at M-46 Bridge four miles west of Howard City (T. 12 N., R. 10 W., Sec. 32).

Time - 1:30-2:00 P.M.

Air - 76° F. Water - 71° F.

Flow - estimated, 10-15 cu. ft. per sec.

Average width - 35 ft. Average depth - 30 in.

Pools here - S<sub>1</sub>T<sub>2</sub>F<sub>1</sub> - Not much cover in pools, but pools very large and deep and almost continuous.

Bottom - on shallows - silt and gravel; in pools - gravel, rubble, clay.

Fish seen - Common sucker, 1" - 2 $\frac{1}{2}$ "; johnny darter; black-nosed dace; horned dace; largemouth bass fry; northern pike, 2 $\frac{1}{2}$ '.

Three springs are located just above the bridge, but the combined flow is not over 50 gallons per minute, temperature 51° F. Temperature at stream bank below springs in stream was 70° F.

E. Artman Park (T. 12 N., R. 10 W., Sec. 28).

Time - 2:20 P.M.

Air - 76° F. Water - 71° F.

Pools - S<sub>1</sub>T<sub>2</sub>F<sub>1</sub>

Bottom - gravel and rubble

Flow - not over 10 cu. ft. per sec.

Average width - 25 ft. Average depth - 12 in.

Fish seen - Johnny darter, sucker, common shiner.

C. U. S. 131 - Highway Bridge in Howard City (T. 12 N., R. 10 W., Sec. 26).

Time - 2:40 P.M.

Air - 79° F. Water - 75° F.

Pools - S<sub>3</sub>T<sub>3</sub>F<sub>3</sub>

Flow - not over 5 cu. ft. per sec. and sluggish

Bottom - silt, fine gravel, some rubble

Fish - seen in addition to those already listed - Hog molly, stickleback.

D. T. 12 N., R. 9 W., Sec. 29, southwest  $\frac{1}{4}$  at bridge.

Time - 3:00 P.M.

Air - 80° F. Water - 73° F.

Pools - S<sub>1</sub>T<sub>3</sub>F<sub>3</sub>

Bottom - predominantly silt, but some gravel

Fish seen - as before.

E. East of Howard City (T. 12 N., R. 9 W., Sec. 28).

Time - 3:20 P.M.

Air - 78° F. Water - 75° F.

Flow - less than 5 cu. ft. per sec.

Pools - S<sub>2</sub>T<sub>3</sub>F<sub>3</sub>

Stream now almost entirely open, and pastured

Bottom - sand and silt

Fish - minnows abundant

F. Just below Forks (T. 12 N., R. 9 W., Secs. 27-28).

Time - 3:30 P.M.

Air - 81° F. Water - 74° F.

Flow - 2-5 cu. ft. per sec.

Average width - 15 ft. Average depth - 6 in.

Tributary from south flowing less than 10 gal. per min. - 61° F.

G. S. Fork - a drainage ditch - (T. 12 N., R. 9 W., Secs. 22-23).

Temperature - water, 85° F.

Flow - 1-5 gal. per min.

H. N. Fork - (T. 12 N., R. 9 W., Secs. 22-23).

Time - 3:45 P.M.

Air - 80° F. Water - 78° F.

Flow - 1-3 cu. ft. per sec.

Pools - S<sub>1</sub>T<sub>3</sub>F<sub>3</sub> - some rubble and gravel around bridge

Fish - Minnows abundant

The only section of stream which appears capable of holding trout through the entire summer is that part located below Artman Park on M-46; and the presence of pike and largemouth bass indicate that this area may, on extremely warm days, become unsuitable for trout. There was abundant evidence that the stream floods between three and four feet in the spring. Just how far down below M-46 the stream supports trout is not known at present. It probably should not be planted except for early season angling.

A possible source of oil pollution is located in Section 20, T. 12 N., R. 9 W., in the form of an oil well. Drainage from the well can reach Tamarack Creek through a narrow drain flowing through Sections 29 and 32. There appeared to be no flow at the time of the investigation, but under spring run-off conditions, well wastes could pollute Tamarack Creek.

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