

FRESHWATER FISHERIES ADVISORY SERVICE

MARINE DEPARTMENT

INVESTIGATION REPORT

JOB NO. 2

ACCLIMATISATION SOCIETY DISTRICT: Hawkes Bay.

TITLE OF JOB: Stream Survey of Tamaki River above site of proposed weir.
3-4.12.56.

OBJECTIVES:

- (1) To conduct a stream survey of the Tamaki River above the weir site in order to establish the need for a fish ladder on the new weir.
- (2) To determine the suitability of the stream above the weir for spawning.

FINDINGS:

Physical Features

The Tamaki River rises on the eastern slopes of the Ruahine Ranges and flows in a southerly direction until it empties into the Manawatu River. The stream has a fairly steep rate of fall until it is within three or four miles of the Manawatu.

Three-quarters of the stream flows through pasture country, the upper section flows through native bush.

Five tributaries enter from the left (looking upstream) but as they are all below the dam, they were not surveyed.

The stream was divided into four physical sections, two on the main water and West Branch, and two on the East Branch.

Section 1

(Stream Survey card No. 37, Photo No. 1).

This section extends from the existing weir to the end of the West Branch road - approximately 3½ miles. The weir is approximately 6-8 feet high and the water falls sheer down its face. It has been in position for about 50 years and effectively blocks the passage of fish up the river. The stream flows through a shallow, widening valley, over 1 mile wide in the lower part of this section.

The banks are from 1-5 feet in height and in many places are being washed into the stream.

The bed of the stream is unstable and consists mainly of stones and shingle, with some loose, fine gravel. Towards the upstream part of this section, the shingle bed becomes more extensive and more unstable. It is also littered with large tree trunks.

Aquatic animals are scarce, the dominant species appears to be *Hydropsyche*. No fish of any sort were seen.

Section 2

(Stream Survey Card No. 40, Photo No. 2).

This section extends upstream from the end of the East Branch road. The valley is much narrower and with steep, bush-clad sides between 100 and 500 feet in height. The banks are from 1-5 feet in height and are about 50% stable.

The bed consists of shingle, stones and coarse grit, also a few boulders and tree trunks are scattered about the bed. The Tamaki River in this section of its course is a typical back-country stream, rapid flow, shifting shingle bed and subject to sudden floods.

Bottom animals are scarce and consist mainly of mayfly larvae (*Deleatidium*). No fish were seen in this section.

Section 3

(Stream Survey card No. 38, Photo No. 3).

This section extends from the confluence of the East Branch with the main water, up to where the East Branch enters the gorge, a distance of approximately 2 miles. The stream flows through a grassy valley, with steep slopes between 100-500 feet in height.

The stream banks are between 1-5 feet high and are fairly stable. The bed of the stream consists of stones, sand and shingle, which on the whole is too fine and loose for spawning, although there are one or two suitable patches.

Bottom animals are scarce, the dominant species being *Helicopsyche*.

The only fish seen were some very small fry about $\frac{1}{4}$ " long which were possibly galaxias sp, one or two bullies and a few inanga.

Section 4.

(Stream Survey Card No. 39)

This section extends through a gorge in the centre section of the stream, a distance of approximately one mile.

The gorge is steep-sided, with bush-clad banks up to 100 feet in height. The banks are 90-100% stable, but some of the lower sections have collapsed into the stream.

The bed is moderately stable and is made up of stones, sand and shingle. The flow in this section is fairly swift and alternates between rapids and pools.

Bottom animals are scarce, the dominant species being helicopsyche and bottom vegetation is absent.

Only two bulles were seen in this section.

Above this gorge the stream widens out again and conditions are similar to those in Section 3. It then enters a narrow valley in the bush and becomes identical, on a smaller scale, to Section 2 on the West Branch.

Fish seen in the area above the weir were in not very great numbers and are as follows: Bullies, Inanga, Galaxias fry. No trout were seen in any part of the stream.

The bottom fauna consisted of the following groups.

<u>Ephemeraeidae</u>	<u>Tricoptera</u>	<u>Mollusca</u>
Deleatidium	Olinga	Potamopyrgus
Colorburiscus	Hydropsyche	
Oniscigaster	Helicopsyche	

CONCLUSIONS AND RECOMMENDATIONS

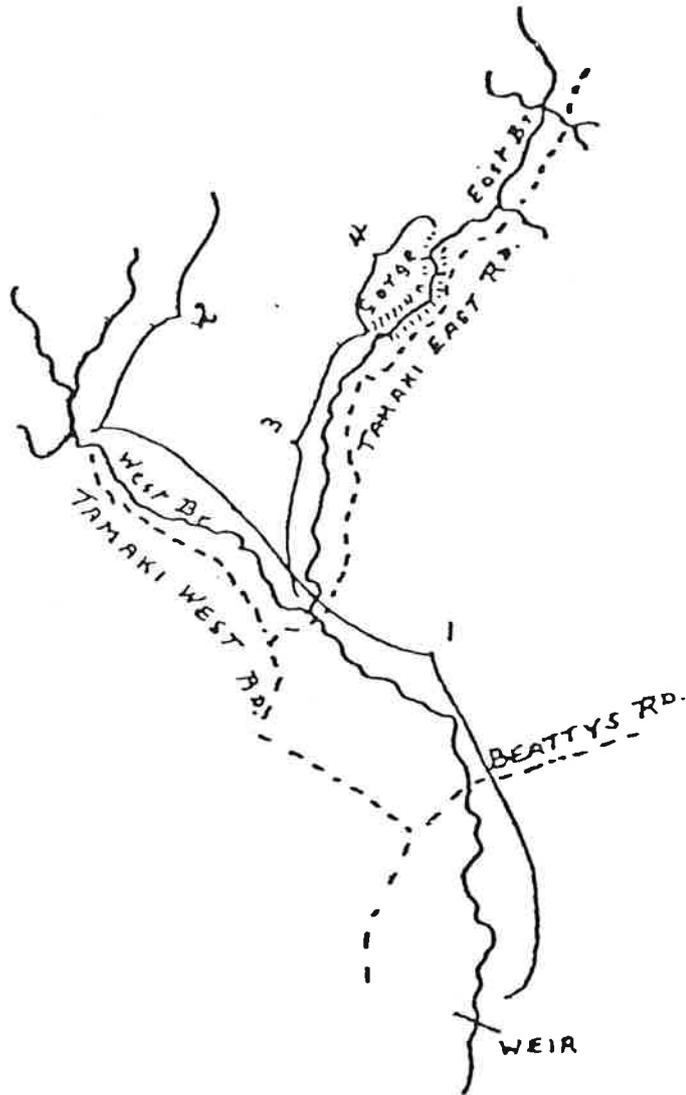
Because of the instability of the bed and the extensive and rapid flooding to which the stream is subjected, it will be seen that the Tamaki River above the weir site is unsuited for spawning. The East Branch is more suitable than the West Branch but it is felt that it is not really significant, or sufficiently important to warrant giving fish access over the new weir.

Therefore the inclusion of a fish pass in the proposed weir cannot be recommended.

It is recommended that a letter of thanks be sent to the Dannevirke Anglers' Club for their invaluable assistance.

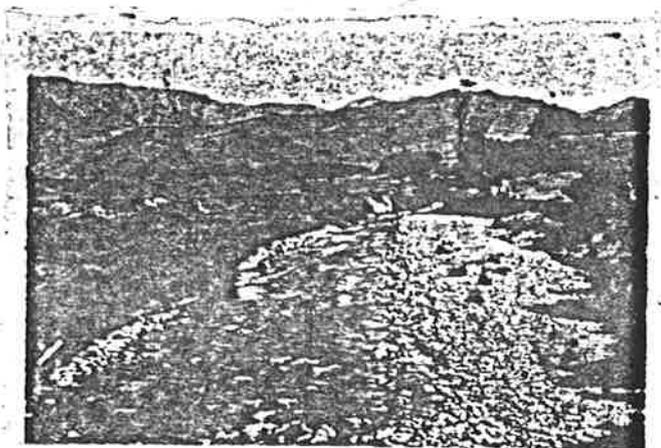
Executed by	(sgd) R. Boud	Supervised by	(sgd) B.T. Cunningham
	<u>Technical Trainee</u>		<u>Fishery Officer</u>

TAMAKI RIVER

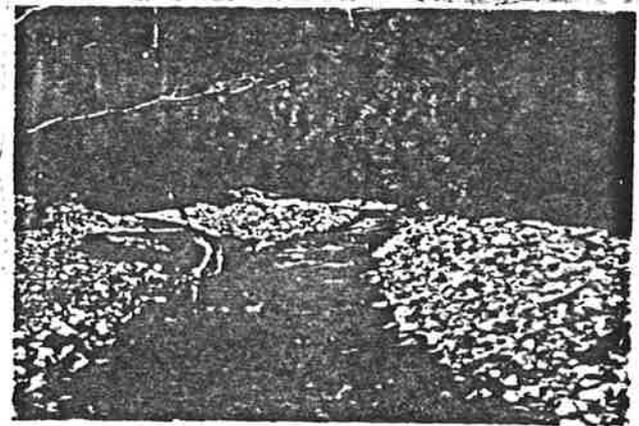


Scale: 1 inch to 1 mile.

Section 1



Section 2



Section 3



Section 4

