

Bowyers Stream Spring 2013

A Catalogue of river control work carried out on Bowyer Stream Spring 2013 and issues identified from a recreational angling point of view, supported by the Waikato Regional Council Best Practice Guide Lines with the key applicable guidelines listed below;

A short Summary of Key Waikato Regional Council Best Practice Guide Lines that appear to have relevancy;

4.2 Vegetation lopping and layering

Anchoring;

Must be adequate to retain the material on site during all expected flow conditions until sufficient new roots have formed to anchor the willow material

Chapter 4.2.1 Guidelines for best practise states;

Site assessment

- a) Does the site require human intervention? (What would be the impacts of doing nothing?).
- b) Would normal willow/poplar stake planting successfully control the erosion? What level of intervention is necessary?

Planning

- d) Consider potential impacts of the work on recreational river users (for example, anglers, swimmers, canoeists) and take steps to minimise these.

Physical works

- a) Ensure that all works are carried out in a manner that minimises the operation of machinery within flowing water. Where machinery has to enter the water course, measures shall be taken to minimise temporary effects (for example, temporary diversions, bunding off sections of work).

Under Native Planting and listed often throughout the doc;

Providing shade is probably the most important way to enhance stream life. Shade keeps water temperatures down for stream life and prevents nuisance water weeds and algae from growing. Leaf litter from planting also provides a food source for stream life. Small, shallow streams are more susceptible to cooling as a result of planting than large, deep streams so if temperature reductions are desired it is best to focus planting efforts on small shallow streams.

6.2 Gravel management and extraction

6.2.2 Guidelines for best practice

- f) Plan works so that runs, riffle and pool habitats are maintained in the stream ecosystem. To do this look at the run, riffle pool layout upstream and recreate the pattern once you have completed gravel management/extraction works.

Full guide lines are here: <http://www.waikatoregion.govt.nz/PageFiles/5677/tr0741.pdf>

Photographic Essay of work carried out;

1



An apparently well repaired erosion area with extensive layering.

Compare this with the next picture where work has been done, but would appear to be of a considerably lower standard

2



An extend pool area has been removed opening the bank to direct flow and faster water flows. Only a short section of bank repair work had been attempted. It's likely the work will be washed out by normal flood activity, and the pool that was in this corner has not been recreated, so a net loss to fisheries values yet little gain in erosion control! An example of work that is unlikely to meet the WRC best practice guidelines.

3



This section of bank has not been touched however is directly opposite picture No 1 – no poling, no layering. Demonstrates the haphazard/variable nature of the way work is applied to the stream

Left alone for nature to take its course – like it should be – the preferred approach from a recreational angling point of view and meets best practice guide 4.2.1a

4



Another section of bank that has been eroding over a long period of time and again shows partial repairs (right hand side where gravel has been pushed against the bank) rather than a complete repair job. Left hand side indicates some diversion of water. Another example where work is unlikely to meet guidelines

It's not the first time temporary type work has been done at this location; no doubt another partial repair job will be attempted on the next visit...

5



6



Example of other work where gravel is pushed against the bank – machinery in the water - unlikely to resist normal flood events. I can distinctly remember the pool in photo 6 getting similar treatment in a previous control effort.

Pictures 2 – 6 above are examples of work which is pretty typical of river control works on Bowyers and other fisheries.

Comment;

I understand that budget constraints are the reason why complete repairs aren't undertaken. Adjacent land owners are responsible for the cost of those repairs – Pic 1 would appear to be an example of where the land owner has paid for the repair. So if the land owner doesn't want to commit to the repair, then it appears these types of temporary repairs are attempted.

Removal of shading, overhanging vegetation and amenity value

7



8



It's noticeable that a lot of cover has gone. Picture 7 – I never knew this section was straight, you couldn't see up it previously. Picture 7 – 8 note both show areas with very stable grassy banks.

Considering the lack of any erosion threat in these areas the applicable WRC Guide Line would appear to be;

Site assessment

a) Does the site require human intervention? (What would be the impacts of doing nothing?)

9



10



Pictures 9 & 10 are from the section above SH72 where the water flow is noticeable less as it's above several inflows

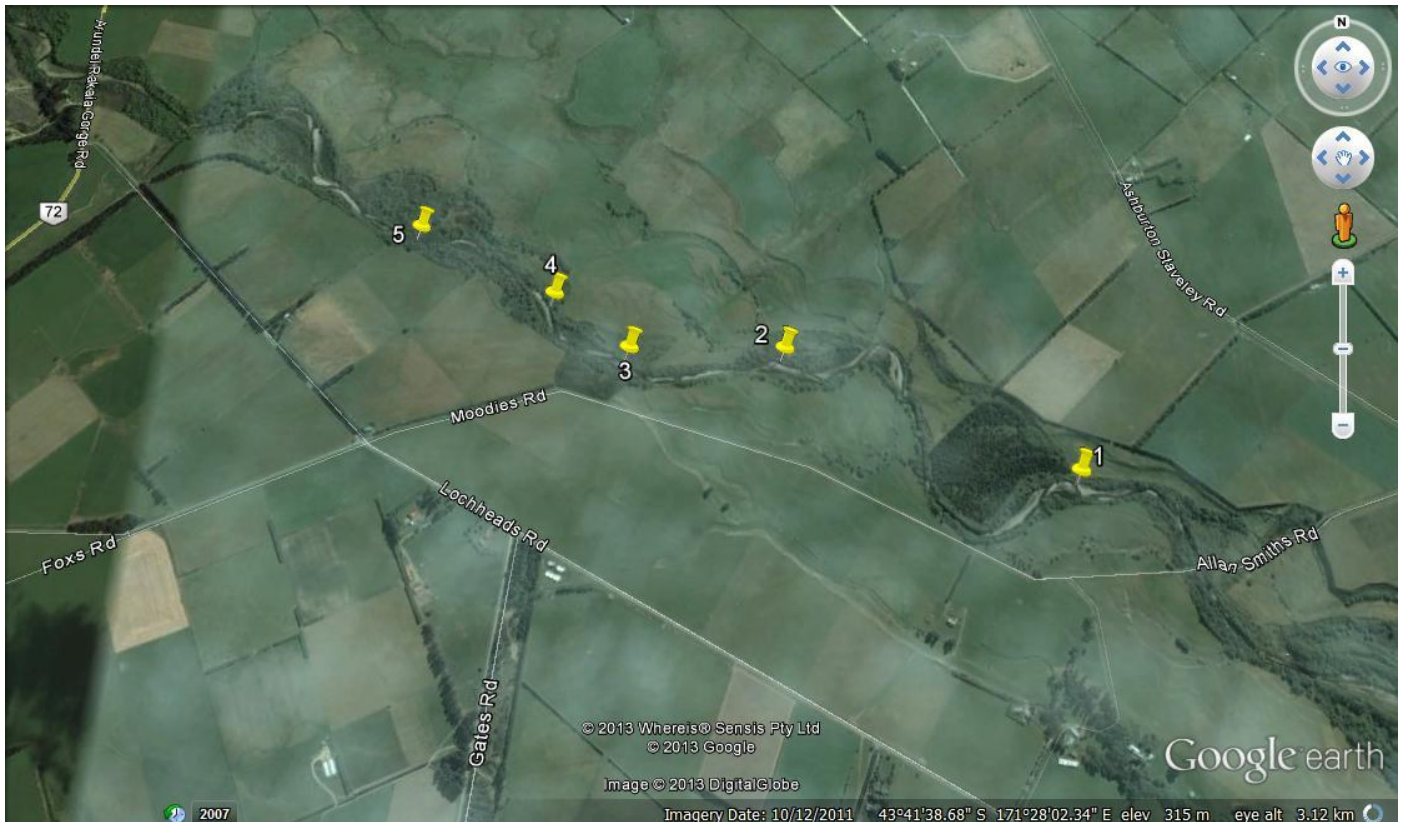
In this sections a number of corner pools have been filled with gravel;

1. Pools removed reducing trout habitat and fishing opportunity
2. River move out of shaded area – now in full sun
3. Work is temporary in nature, unlikely to survive normal flood events

Many WRC guide lines would suggest a different approach is needed

Pools removed

11



It's subjective as to just how many pools have been removed as a result to this work alone, it cannot be fully measured without a before and after inspection – I estimate approximately 5 have been removed from the section between the ford and 72.

Picture No 5 shows another removed about 1km below the ford

Pictures 9 & 10 show the type of work carried out above 72 showing more pools removed in that area having an

even greater impact on the fishery there – Local angler reports it is no longer worth fishing in this stretch and I concur

Machinery in the water and river bed

It's clear that this work required extensive use of machinery in the water to layer the willows and in places quite a lot of bank disturbance occurred

12



13



14



15



16



17



The disturbances to the banks can make for difficult walking conditions and reduces the amenity value. Pictures 16 & 17 are beside one of the best pools in the most fish part of the stream, the work was to reduce the height/build-up of the inside bank to stop it pushing the flow further against the outside bank.

Effect on the recreational experience;

Loss of pools reducing the streams trout holding capacity and therefore represents a loss of angling opportunity

Bank disturbances leaving uneven surfaces – tripping hazards

Broken Willow trees dominate the visual experience

Resulting in diminished amenity values lowering the enjoyment of the recreational experience

The on-going regularity of this type of work means that the streams are regularly interfered with, and seemingly have just recovered from previous work when they are hit again

The work in Bowyers Stream is representative of similar work carried on in many river systems in Canterbury though it's notable the Upper Selwyn and Hororata rivers are mostly left alone!

Effects on the fishery;

Loss of pools reduces the adult trout habitat and the adult trout carrying capacity of the stream

Filling in with gravel of pools reduces available adult trout habitat

Reduction in willow cover reduces the available adult trout habitat

Increase of water temperature by extensive removal of shading is detrimental to fisheries values

Decreased food supply (Willow Grubs and terrestrial insects) by removal of overhanging willows – a prime summer food source

The extensive use of machinery in the water disturbing the bed over extended stretches of the river disturbs fish populations, causing silt disturbance and impacts on in-stream food sources.