

## **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







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.

### F&Gs Roll

I also note the functions of F&G Councils – particularly the first paragraph highlighted in bold below ;

### 26Q Functions of Fish and Game Councils

**(1)The functions of each Fish and Game Council shall be to manage, maintain, and enhance the sports fish and game resource in the recreational interests of anglers and hunters, and, in particular,—**

(a)to assess and monitor—

(i)sports fish and game populations; and

(ii)the success rate and degree of satisfaction of users of the sports fish and game resource; and

(iii)the condition and trend of ecosystems as habitats for sports fish and game:

(b)to maintain and improve the sports fish and game resource—

(i)by maintaining and improving access; and

(ii)by maintaining the hatchery and breeding programmes, where required for stocking or restocking the sports fisheries and game habitat; and

(iii)by formulating and recommending to the New Zealand Fish and Game Council conditions for fishing and game seasons; and

(iv)by ensuring that there are sufficient resources to enforce fishing and hunting season conditions; and

(v)by undertaking such works as may be necessary to maintain and enhance the habitat of sports fish and game, subject to the approval of the Minister, the land owner, or the administering authority, as the case may require:

(c)to promote and educate—

(i)by defining and promoting ethical standards of behaviour to be followed by anglers and hunters; and

(ii)by promoting recreation based on sports fish and game; and

(iii)by keeping anglers and hunters informed on matters affecting their interests:

(d)in relation to costs,—

(i)to assess the costs attributable to the management of sports fish and game; and

(ii)to develop and recommend to the New Zealand Fish and Game Council appropriate licence fees to recover costs and game bird habitat stamp fees; and

(iii)to represent the region's interests with the New Zealand Fish and Game Council in the determination and distribution of levies on licences:

(e)in relation to planning,—

(i)to represent the interests and aspirations of anglers and hunters in the statutory planning process; and

(ii)to formulate and adopt an annual operational work plan; and

(iii)to prepare draft sports fish and game management plans in accordance with this Act; and

(iv)to identify and recommend to the New Zealand Fish and Game Council the region's sports fish and game requirements for research; and

(v)to implement national policy determined by the New Zealand Fish and Game Council; and

- (vi) to liaise with local Conservation Boards; and
  - (vii) to advocate the interests of the Council, including its interests in habitats:
  - (f) to issue—
    - (i) licences to hunt or kill game, and game bird habitat stamps, in accordance with the Wildlife Act 1953 and any regulations made under it; and
    - (ii) licences to take sports fish, in accordance with this Part and any regulations made under this Act; and
    - (iii) game hunting guide licences in accordance with the Wildlife Act 1953 and sports fishing guide licences in accordance with this Act:
  - (g) to sell or arrange the sale of, in New Zealand or outside New Zealand, game bird habitat stamps and associated products:
  - (h) to recommend to the New Zealand Fish and Game Council the form of game bird habitat stamps.
- (2) Each Fish and Game Council shall have such other functions as are conferred on it by or under this Act or any other Act.
- (3) The following provisions shall apply in respect of operational work plans:
- (a) each Fish and Game Council shall prepare such a plan annually:
  - (b) such plans shall be submitted to the Minister for the Minister's approval if there is no sports fish and game management plan for the time being in force for the area:
  - (c) the Minister shall approve or amend plans submitted under paragraph (b):
  - (d) subject to paragraph (e), such plans shall have effect on and from the date of their completion by a Council but shall be subject to any amendments made by the Minister:
  - (e) if there is no management plan for any species of sports fish or game for the time being in force for the region of a Council, those provisions of the Council's operational work plan that relate to the management of those species for which there is no management plan shall not have effect until approved by the Minister.

### **Summary**

F&G are responsible for looking after the interests of the recreational angler. Which my interpretation of this means the fisheries are managed for the benefit of the fisherman, rather than for the benefit solely of the fisheries themselves.

### **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.

### **Observations on the quality of the work undertaken**

It's clear that the quality of the repair work is extremely variable. Because much is clearly of a low quality it's unlikely to resist future flood events and will require further work, a great employment scheme but not great for recreational users of the fishery. Budgetary constraints are the responsibility of Ecan to sort out and while I can appreciate it cause difficulties, it shouldn't be used as an excuse for the damage caused to the fishing experience

Much of the work appears to fall well short of the WRC best practise guide lines for this type of work