TKURFMP - Floodplain Sub Committee Option Development

Site Visits and Workshop Thursday 14 April 2016

Site Visits

Rathkeale College

Issues discussed:

- Current Stopbank is constructed too close to river corridor and the buffer between the river and stopbank is too limited to be able to guarantee the integrity of the stopbank.
- Narrow river margin (both sides) increases level of work within river bed to maintain erosion control protecting land and stopbank.
- In order to identify a sufficient buffer along which the river can be managed, the existing stopbank needs to be relocated approximately 20 -30 metres further from the river, potentially reducing the area of land currently used for playing fields.
- Boulders used to protect stopbank along narrow river margin required to protect existing stopbank are expensive and will offer limited ongoing protection.
- Old railway irons now buried within vegetation.
- Existing stopbank includes areas of vegetation which may comprise future integrity of stopbank.
- Planting along river margins predominantly includes willow as durable species which is easily established and suited to erosion control. As part of this process willow trees are laid down to encourage additional growth - areas of indigenous vegetation can also be included with additional space.

Figure 1: Rathkeale College Stopbank

Figure 2: Narrow buffer inside Stopbank

David Holme's Property

Issues discussed:

- Fenced river margin provides limited space along which river can be managed.
- Existing vegetation along margin of the river managed through trimming which has so far proved effective and significant erosion hasn't occurred.. There may be future issues with excessive trimming causing branch growth rather than root growth to hold together soils as needed.
- The proposed buffer extends into adjoining property and paddock by approximately 20 metres.
- Land owners experience with flooding along this section of river was that it tended to move to other side of the channel and away from his property. This has occurred since the Masterton Water Treatment Plant was upgraded removing pressure of flow from his river bank.
- Course of river moved through historic channels and didn't necessarily occupy area identified within buffer strips.

Figure 3: River Margin adjoining David Holmes property

Figure 4: Buffer Strip extends into existing paddock

Michael Williams Property

Issues discussed:

- Area encompassing buffer strips forms marginal land surrounded by existing willow and grazed at low levels. There was no land owner concern with retiring this for buffer planting.
- Willow planting which has occurred in the last two years has struggled with dry weather, several plants dying off. Planting earlier in the season didn't improve this outcome second time round.
- Willow poles cost around $10 to plant each. Survival can be enhanced using bigger poles however this increases cost.
- Willow aphid is established on willow trees, the long term effect of which is not known.
- Important to avoid monoculture which is vulnerable to aphid and similar or worse infestations.

Figure 5: Michael Williams Buffer Strips

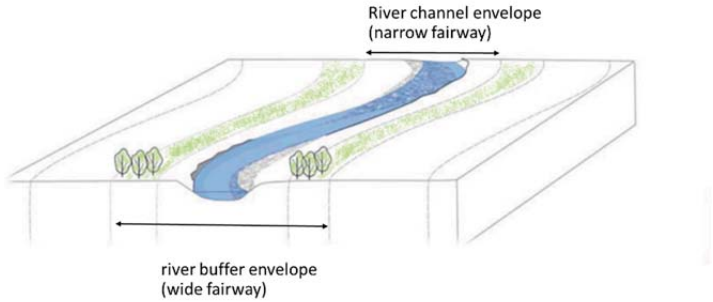
Figure 6: Giant Willow Aphid infestation

Common Tools Workshop

The intention is for the sub-committee to understand the key common tools to be developed and included within the FMP. The following questions can be distilled from the overarching aims within the Draft FMP to assist understanding how each tool can deliver the intended outcomes:

- Economic
  - Is it affordable (now and into the future)?
  - Does it reduce likelihood of loss to private property, business, agriculture?
  - Does it enhance wider economic opportunities?
- Resilient Communities
  - Is it adaptable to change?
  - Does is manage or reduce the risk to essential public infrastructure?
  - Does it protect the health and safety of the community?
- Cultural
  - Are cultural values recognised?
  - Does it recognise the interconnectedness of natural systems?
- Natural Spaces / Processes
  - Does it improves natural values / character ?
  - Does it improves natural processes / ecology?
- Community Needs / Amenity
  - Does it improve river access?
  - Does it improve recreation safety?
  - Does it respond to community aspirations?

River Buffers (Banks)



KEY POINTS:

- Understood as logical, but do not see it as marketable.
- What guarantees can we give?
- How do we prioritise the work?
- How do we decide on what approach?
- How do we prioritise environmental enhancement against protection of land?

Economic

- The prospect of losing 20 metres or more of land from productive use presents a 'scary thought' to land owners.
- Tool seems difficult to sell in economic terms.
    - Are landowners expected to gift land to the river?
    - Are there also changes to rates to manage river?
- Landowners to be made aware that the current use of land within buffer strips can continue to occur, however remediation work would not occur until the margins of river have eroded to the edge of the buffer strips.
- The cost of implementing the FMP is expected to shift from work within the river corridor to planting along river buffers.
- Buffer strips could generate secondary revenue streams ie honey production, drought fodder.

Resilient Communities

- The prospect of allowing erosion to occur along river margins will challenge current expectations that remedial action is undertaken at the time damage occurs to minimise future consequences.
- The response wouldn't wait until erosion gets to the back of the buffer before action.
- Buffer seen as tool to prioritise work. With limited resources, remedial work prioritised in areas where erosion is reaching the outer edge of the buffer.
- Concern with where concept of buffer strips might stop? Will there be a need to extend these in the future?

Natural Spaces / Processes

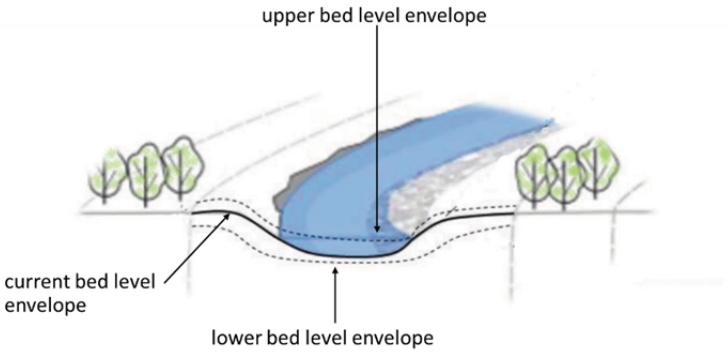
- Whilst logic makes sense when considered at a river scale it seems to make less sense at a site specific scale.
- During big flood event, river seems to respond differently to concept of buffer strips identified.
- Allowing increased erosion of upper reaches may exacerbate sedimentation problems downstream.

- Infestation of planted buffers with weed species is a problem, eg Old Mans Beard.
- Planting of buffers occurs once erosion has occurred within the lowered river bed. There is no planting on top of cliffs

Community Needs

- Important amenity areas need to be identified alongside buffer strips so that amenity values can be managed within buffer strips defined in these areas.
- Potential for use of buffer areas for community benefit.

River Buffers (Beds)



KEY POINTS:

- In general the bed levels in the upper reaches are lowering whilst the lower reaches are getting higher. This requires large catchment scale events such as major earthquake events or erosion to change.
- Bed levels provide a guide to help determine when extraction should or should not occur.
- This is similar to the concept of gravel moratoriums.
- There are limited additional tools available to manage lower bed level envelopes – options include encouraging river banks to be eroded upstream to encourage further a build-up of material downstream.
- Further work needs to be done to inform management decisions and determine where and what work can occur.

Economic

- In the past, upper limits were addressed through extraction, however this is now less economically feasible.
- It is too expensive to shift enough quantity of material up stream where lower bed limits are breached.
- Gravel moratoriums are an accepted tool to address bed level lowering.

Resilient Communities

- Where lower bed limit is exceeded this can flag the need to review river buffers along banks given that erosion risk is increased in this area.
- Where bed degradation (lowering) occurs, this can cause subsequent issues along river margins.

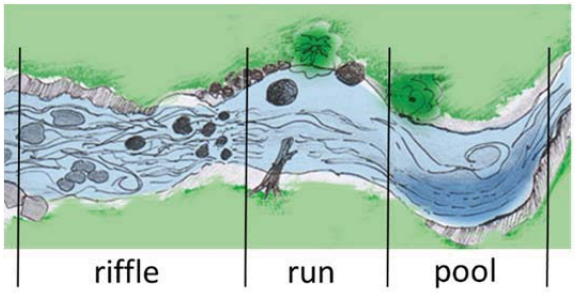
Natural Spaces / Processes

- As bed gets higher it causes islands within the river corridor. Islands respond differently to different natural processes which occur. e.g. Ruamahanga River typically cleans islands out itself whilst Waingawa River requires flooding event.
- Work is scheduled around an annual season with restrictions around fish and bird breeding seasons.
- Encouraging increased erosion of upper reaches may exacerbate sedimentation problems downstream.

Community Needs

- Community concern with dozers in river - Provision for flexible river bed margin buffers can reduce the need for machines in the river.
- Vegetated islands and debris along Waingawa causes amenity issues as part of the ‘Gateway to Masterton’.

Pool, Riffle and Run



KEY POINTS:

- Pool, rifle and run count to be applied where works occur.
- If fixed counts are put into consent, then this might mean that additional work is needed in the river corridor to comply with them? This will need to be resolved possibly by use of count per metre length, that can be put in place following any works being completed.
- No other issues identified – Sub-committee understand and like this idea.

Retreat or Retirement of Assets

KEY POINTS:

- Flood Management Plan builds framework around process for moving or retiring assets.
- Provides opportunity to tidy up asset register.
- In general, there shouldn't be any assets inside buffers.
- Management considerations will include:
    - Estimate any costs for those that have to be relocated?
    - What are the stopbanks required?
    - What standards will the scheme provide?
    - Which assets shall we walk away from?

Economic

- Requires decisions around equity. i.e. if asset does provide a level of service, should this be maintained? If yes – what other assets may need to be built at what cost? What is the cost benefit of this?
- FMP needs to clarify whether new stop banks will or will not be built and clarify which stopbanks are maintained.

Resilient Communities

- Could declassify asset where this occurs inside buffer.
- If it is a stopbank which needs to be maintained, then this needs to be classified and relocated to an area at lower risk of erosion.
- Land owner needs to be aware of where protection is or isn't applied.

Governance and Funding

KEY POINTS:

- Money spent on schemes is disproportionate to scheme management costs
- Option will look at taking elected members from schemes / councils etc. as a single group tasks with managing all of the schemes together under the FMP.
- Bring back to next workshop on 16th May for further consideration.
- Invite all of the committee members to the scheme committee meetings to build further understanding around this issue.