Mid-King Cooperative Avulsion Management

Andrew Briggs

1 North East Catchment Management Authority, Level 1 104 Hovell Street Wodonga, Victoria email: andrew.briggs@necma.vic.gov.au

Key Points

- Increasing community awareness surrounding avulsion processes was instrumental in driving a cooperative approach to the management of this complicated process.
- The use of a "Layman's" geomorphic overview of the reach, rather than a highly technical document, was readily adopted as a quick-reference guide for landholders and greatly helped their understanding.
- Targeted extension activities spaced over an appropriate timescale helped with information absorption and understanding within the community
- This approach led to the formation of a "Mid King Action Group" that is now able to operate collectively towards well understood management objectives.

Abstract

An active avulsion process is currently underway within a 10km reach of the King River, in North East Victoria. This process first came to the attention of the North East CMA in 2011 when landholders reported rapid changes within the King River channel and surrounding floodplain/anabranches.

Typical of most avulsing waterways, the King River faces several common issues that had to be worked through with the community, including:

- Little knowledge of geomorphic processes,
- Strong attachment to the current alignment, ie a perception of temporal and spatial permanence of the river – "This is where the river has always been"
- Strong ties to the legacy of River Trust interventions,
- No Crown Frontage

Anxiety about the imminent abandonment of the current course and the realisation that the expected "River Trust" response was not going to eventuate due to changes in Government investment priorities, resulted in the community becoming increasingly agitated and political in their endeavours to drive an intervention.

In response, the Authority developed a strategy of strategic extension work founded on sound "layman's" science that enabled the community to develop a deep understanding of their river, and interventions that would outlast a short term "traditional" works program.

After two years of intensive extension work, the community established the "Mid-King Action Group" and are now actively (and largely independently) managing their properties in ways that benefit the whole system.

This approach to avulsion management was successful in being awarded the River Basin Management Society's Vic Catchments award for "Involving Community in Waterway Management".

Keywords

Avulsion Management; Mid-King; Community Engagement; Geomorphology; Strategic Extension; River Walks

Introduction

Within the North East Catchment Management Authority (CMA) region, river processes related to avulsions are frequently encountered, and are always extremely challenging to resolve. In some instances the processes, impacts and management responses are relatively well defined. For example, the possible capture of the Ovens River by the Happy Valley Creek near Myrtleford (the "Myrtleford Breakaway") and, again on the Ovens River, the Deep Creek near Everton in North East Victoria, are both well documented and have a lengthy history of structural interventions intended to maintain the current alignment of the river (Judd, 2005; Earth Tech Engineering 2004, 2003; I.D.&A. 1996;). This history of structural intervention is one that is rooted in the tradition of river-engineering for the protection of agricultural production and public infrastructure and was driven strongly by the river management trusts and boards the were the predecessors of the current CMA structure.

However, "new" active avulsing systems that are encountered do not necessarily trigger the same rapid response from investors as in the past, and a far more stringent approach is taken to the investment of public funds in these systems, particularly where there is little or no threat to public infrastructure if, or when, the river changes course.

The Mid-King is such an example (see figure 1). This process first came to the attention of the Authority in 2011 when landholders in the area reported rapidly increased rates of sedimentation within the King River channel, exacerbated by instream willow growth and fallen timber. A rapid assessment of the reach by Catchment Management Authority staff quickly identified two locations where the abandonment of the King River was imminent.

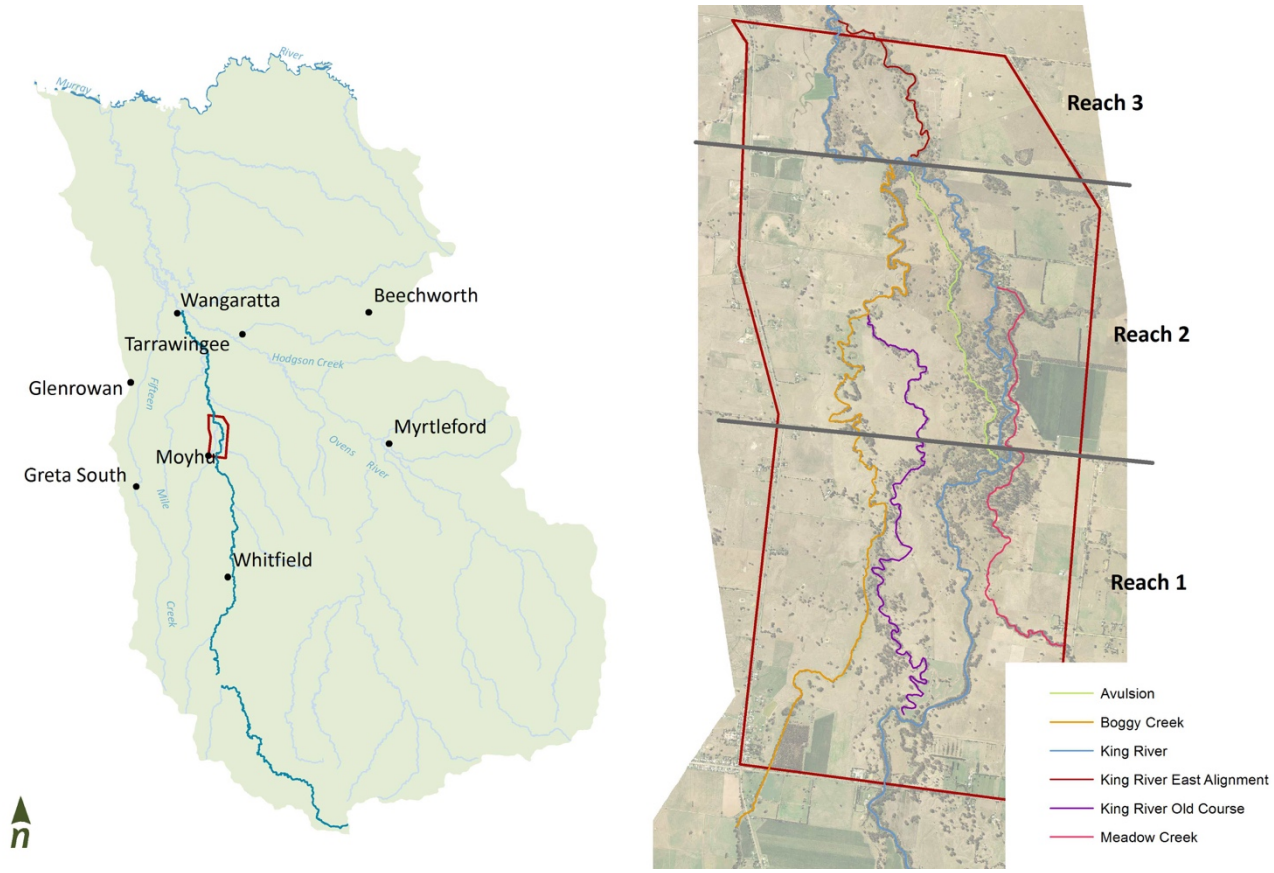

Figure 1. Mid King Location and broad reach categorisation (*Alluvium, 2015*)

Typical of most avulsing waterway systems, this reach of the King River faces several common issues that had to be worked through with the local community, including:

- Little or no knowledge of river (geomorphic) processes, and particularly avulsing systems
- Strong attachment to the current alignment, ie a perception of temporal and spatial permanence of the river – "This is where the river has always been"
- Strong ties to the legacy of River Trust interventions, and minimal understanding of current investment models for dynamic rivers and floodplains
- No Crown Frontage along the developing river channel
- Private farm infrastructure (eg bridges, water extraction) established according to the current waterway alignments
- An extensive, ageing crack willow population.

Anxiety about the imminent abandonment of the current course, combined with the realisation that the expected "River Trust" response from the CMA was not going to eventuate, resulted in the local community becoming increasingly agitated and political in their endeavors to drive an intervention. However, a total absence of impacts on public infrastructure combined with the virtual inevitability of the avulsion led to a mismatch between community expectation, and the willingness of Government to invest public funds into trying to maintain the status-quo.

In response to these background issues, the Authority developed a "bottom up" approach with the community. The vision was for a community that would have a deep understanding of their river, and the possible interventions that would outlast any short term "traditional" works program. This vision would be realised through facilitating increased landholder knowledge of avulsion processes, and the types of management interventions that would be beneficial in the short, medium and long term.

Without this understanding any investment would potentially be piece-meal, miss-understood and fail to leave a lasting legacy (and realistic expectations) within the group. This paper will demonstrate that by starting with education and resisting the urging of the community to rush in with structural interventions, the Authority successfully facilitated a highly engaged and vastly more aware community.

Key Elements for Success

Two key elements have underpinned the success of this program: Strategic extension work from CMA staff, and expert knowledge.

Expert Knowledge.

The first step in the implementation of this project was the commissioning of a high-level "Geomorphic Overview" of the mid-King River. The Authority engaged river & floodplain management consulting experts *Alluvium* to undertake this review in September 2015. The intent was to create a simple, plain language report that could be easily understood and referred back to by the community, effectively breaking down the science of avulsion theory and management into it's simplest forms. Traditional geomorphology reports are highly technical, with a level of detail that far exceeds the practical requirements of working with communities. The brief for the report was that it should contain as much graphical, and as little written content as possible, be highly focused on the target reach, and be published in an accessible format for the community (Figure 2).

The final report was presented to the community at a town-hall style meeting as a conventional PowerPoint presentation, and then the slides from this presentation were effectively printed, bound and circulated amongst all landholders. The success of this approach is underlined by the fact that three nearly years later, landholders are still regularly referring back to the document. Indeed, it is not uncommon to have excerpts from the report quoted back to field staff when on site, something that would not occur with a more traditional technical report.

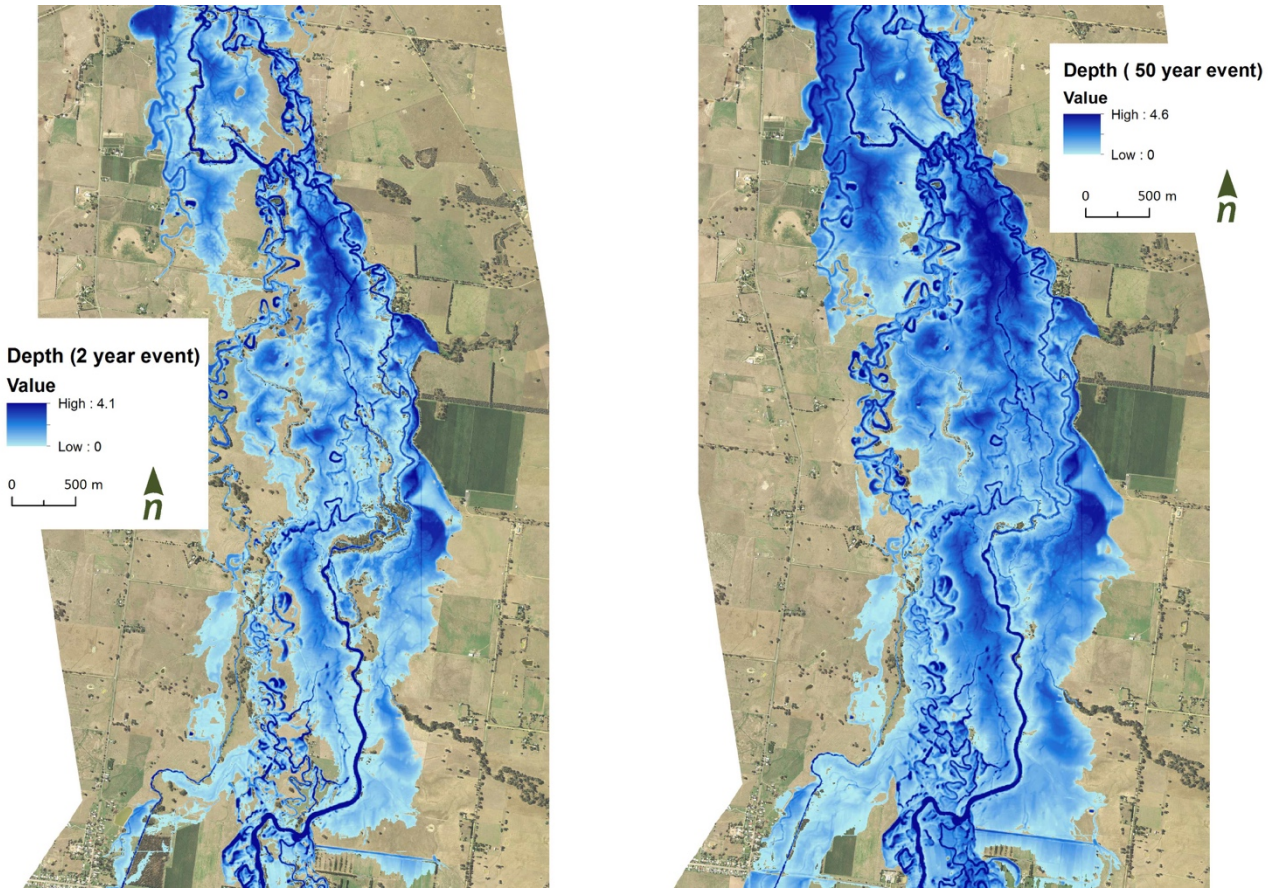

Figure 2. The use of colour graphics to tell a story, as in the LiDAR images above, enhanced landholder understanding and use of the report (*Alluvium, 2015*) (Note: direction of flow is northwards towards the top of page)

Strategic Extension Work – River Walks.

This approach has necessitated a large amount of extension work with the community. From the outset, it was clear that in order to achieve the vision for the project there would need to be a multi-faceted approach, working with both the group, and with individuals.

In order to achieve the objective of ensuring the highest level of knowledge possible within the group, a highly successful strategy of "River Walks" was developed. River Walks were held 4-5 weeks apart, and consisted of a group meeting, on the river bank, at each property impacted on by the avulsion. This strategy facilitated several key enablers for the group:

- *Awareness of Community*. Landholders started to see themselves as a communal group that shared the same values and concerns about the river.

- *Perspective*. Individuals began to realise how a short-term intervention at one location could have lasting and unexpected outcomes for someone else downstream. This often resulted in some very interesting conversations within the group as different options for moving forward were discussed.

- *Repetition*. These forums allowed the Authority to repeat key messages and reinforce the uptake of information. Likewise, it provided an opportunity for the community to reassert their own points of view to be considered by the Authority.

- *Trust*. The community gradually began to see the Authority as an entity to be trusted and worked with, rather than simply to be lobbied against.

- *Support*. What we said we would do, we did. When we were asked, we explained. We demonstrated to the community that we were available, knowledgeable and were genuinely committed to helping them move forward.

For this engagement process to be successful, all values and perspectives had to be considered. Even in such a discrete reach as this, land management ranged from conventional broad acre cattle grazing, viticulture, irrigation, water supply points for feedlot activities and even a high value, Trust-for-Nature covenanted wetland! The single thread that brought all of these diverse activities together was the values attributed to the river. Production, Ecological and Recreational values all came together, along with a general appreciation of the river "as it had always been". As with the educational and practical elements of the project, the regular River Walks, gradually and systematically working through the reach brought about the story telling and reflection that makes up an important part of the glue that holds communities together.

Moving Forward Together

As can be seen, the community was comprehensively engaged throughout course the entire project. The culmination of this investment of time and energy was the group participation of all affected landholders in the Authority's Riparian Incentives Program. In this program landholders signed up to 10 year management agreements to carry out activities such as fencing, revegetation and willow management. When funding resources became available via this program, the Secretary of the MKAG actively coordinated a joint expression of interest that covered all landholders, with little or no input from the CMA. After they were successful in obtaining funds, the CMA funded the majority of the "heavy lifting", eg Willow management and strategic blockage clearances, with the landholders committing to activities such as fencing, promotion of floodplain vegetation and long term management of willows where it was decided that they should be maintained rather than removed completely.

One of the greatest single benefits of this approach has been the awareness amongst the group of what needs to be done, where, and why. Traditional approaches of rapid assessment and investment from the Authority, working with individuals rather than with a group, has often lead to situations where adjoining landholders do not understand why certain activities are taking place. Willow management is a classic example – without awareness, often all the landholder sees is the CMA removing willow trees for purposes that, in their eyes, are at best purely ecological, and at worst, vandalism! In this case, all landholders (even those who are strongly "pro" willow) were in support of willow management activities as they could clearly link their rapid spread and sediment capture as accelerating the avulsion process. This also empowered landholders to respond to questions from people outside the group with confidence rather than a poorly informed or critical commentary on CMA operations.

Perhaps the greatest outcome has been the open dialogue that now exists between the community and CMA, enabling us to move forward together as this process unfolds.

Conclusions

In short, investing in taking the time to have these conversations at a pace dictated by the community is what ensured that people could express all of their values, perspectives and concerns, in a relaxed atmosphere and on their own piece of river bank. This result simply could not have been achieved with butcher's paper in a town-hall.

This project has paved the way for further engagement with this community; the avulsion has not gone away, or been "fixed". Indeed, all of the work to date has been focused on slowing down the process, improving and protecting river health values and starting to adapt farm management to a changing system. However, as the conversation unfolds over the following years, we can now do so with a well informed and cohesive group of landholders.

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