Socioeconomic impacts of avulsion scenarios – Lower George River floodplain

Sub-title / Location / Presenter Month Year

alluvium

Acknowledgement of Country

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The Alluvium Group acknowledges all the Traditional Owners of the land, sea and waters where we live and work. We acknowledge their continuing connection to culture and Country and pay our respects to Elders past and present. We look forward to a reconciled and prosperous future for all.

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Avulsion scenarios

The Lower George River is increasingly likely to undergo an avulsion.

Four potential avulsion scenarios have been identified for the Lower George.

The river will likely scour a new channel across the floodplain and reoccupy a former channel.

This process is triggered by a single or sequence of flooding events.



Project scope

This stage of the project outlines the potential impacts to the land and community around the George River floodplain under the different avulsion scenarios.

A suite of management options to mitigate the potential consequences that would arise from a river avulsion are also presented.



0 0.25 0.5 1 km

Scenario 2



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Scenario 2: potential consequences



Scenario 3



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Scenario 3: potential consequences

Paddocks scoured and flooded

Properties potentially damaged by river erosion or altered flood hazards from new alignment. Possible access constraints.



Scenario 4





C 0 0.25 0.5 1 km

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Current channel Reoccupied older channel Scenario 4: potential consequences



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Current channel Reoccupied older channel

Questions?

Potential management strategies

- 1. Delay or prevent the avulsion.
- 2. Initiate a controlled avulsion.
- 3. Prepare for the consequences of avulsion.

Management options to delay an avulsion:

Management options:

- Establish riparian vegetation along potential new courses
- Repair break out points
- Willow replacement
- Maintain the weir beneath Binalong Bay Road to prevent head cut
- Sediment extraction

These options:

- Require ongoing costs
- Have no co-benefits
- Has a low probability of success in the longterm

Preventing an avulsion would require large scale engineering works





Management options to initiate a controlled avulsion away from downtown St Helens:

Management options:

- Excavate a gap and reinforce with a rock chute to control break out location
- Excavate new channel
- Support with riparian corridor
- Remove weir under Binalong Bay Road to allow water to flow



Remove weir

Emplace rock chute Establish riparian corridor



Management options to prepare for an avulsion:

Management options:

- Migrate assets away from potential path
- Prevent new assets from being constructed along possible new alignments
- Undertake works to protect assets that cannot be feasibly relocated
 - Emplace levees
 - Establish riparian corridors
- Upgrade Reids Road and prepare for decommissioning of section of Binalong Bay Road
- Conduct an updated flood study to decrease the uncertainty of future channel alignment





Next steps

- We will collate community feedback on consequences of avulsion and potential management options
- We will update the preliminary report with a risk assessment
- We will issue a draft report for comment
- We will issue a final report



Please scan the QR code if you'd like to share your thoughts about the consequences of an avulsion or the management responses presented.



Thank you

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We are passionate about the protection and restoration of waterways, catchments and water resources. We strive to make a positive difference to the world we live

in.