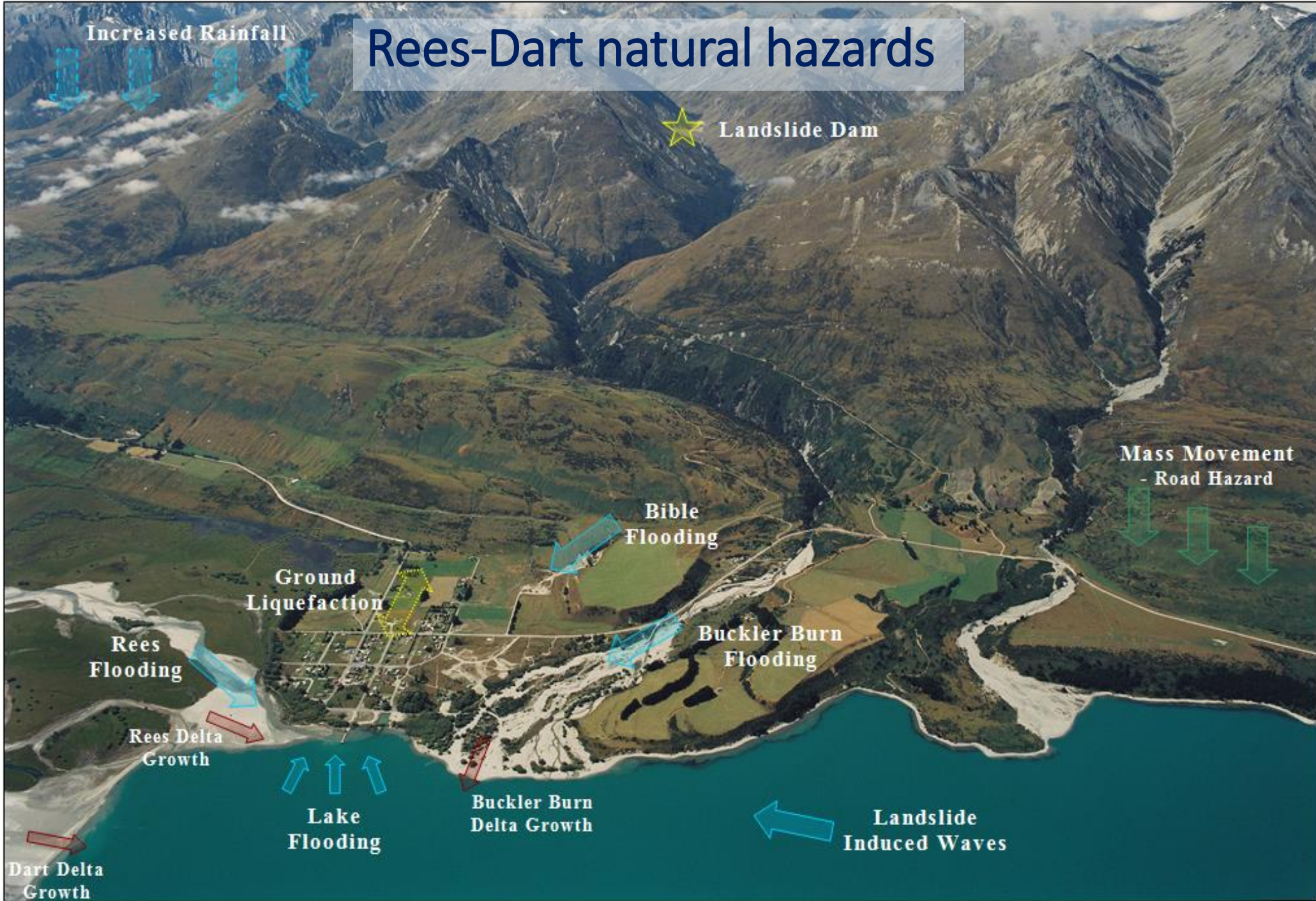
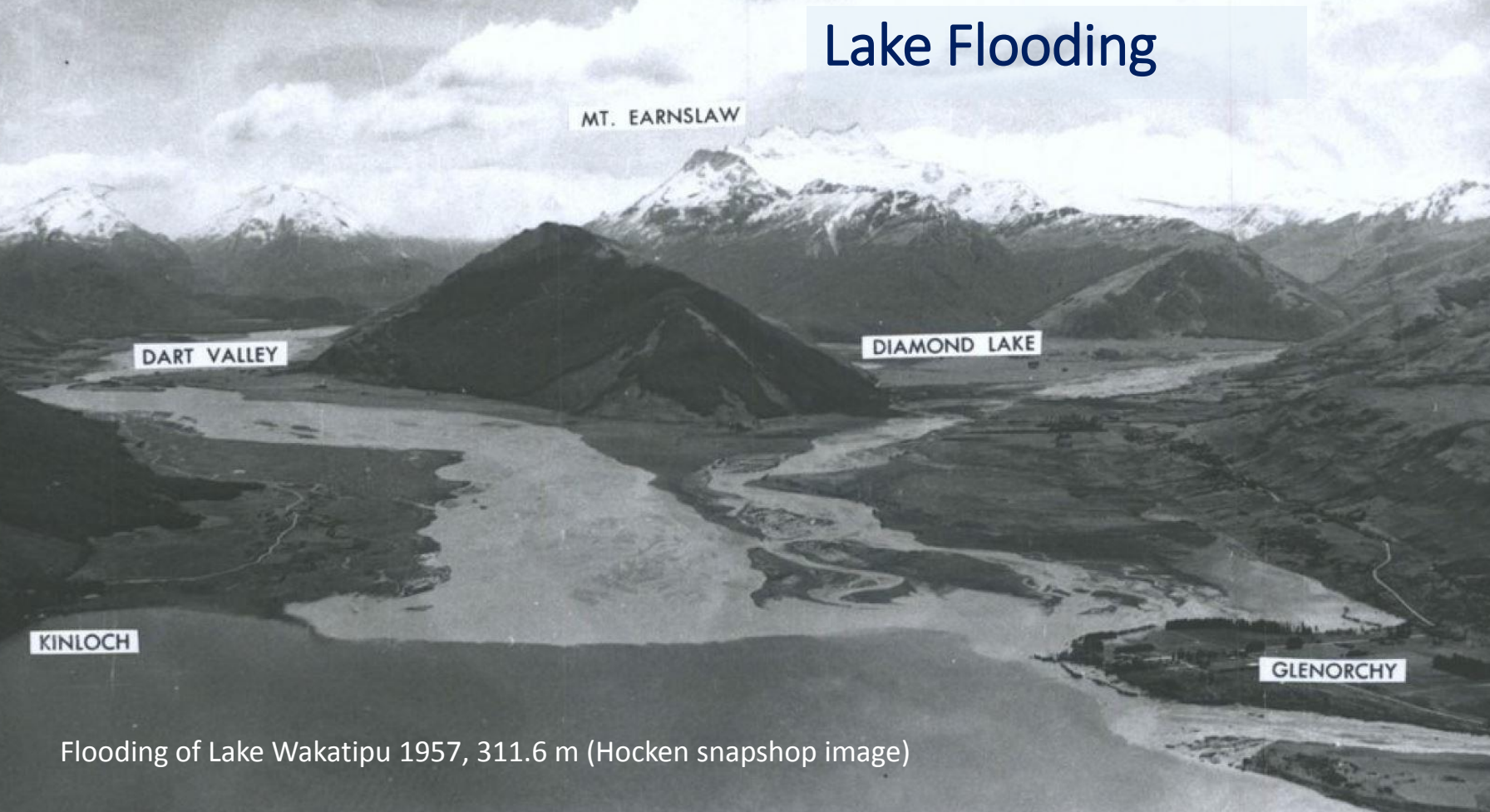
An aerial photograph of a braided river system in a mountain valley. The river consists of numerous interconnected channels of varying widths, some of which are filled with water, while others are dry and filled with light-colored sediment. The surrounding landscape is a mix of brownish-yellow grasslands and dense green forests. In the background, there are large, rugged mountains with patches of snow under a clear blue sky. A layer of white mist or low clouds hangs in the valley between the mountains.

Rees-Dart River management: resilience and adaptation

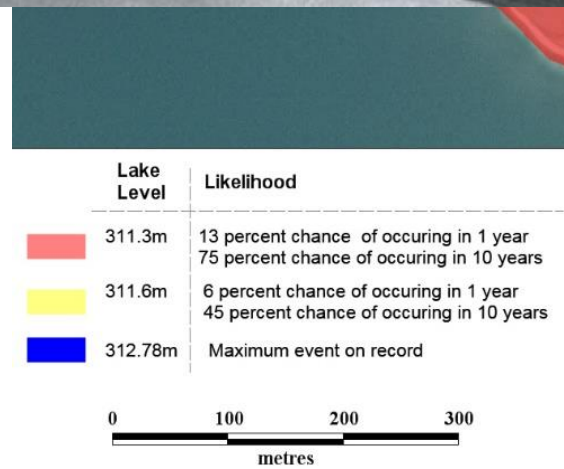
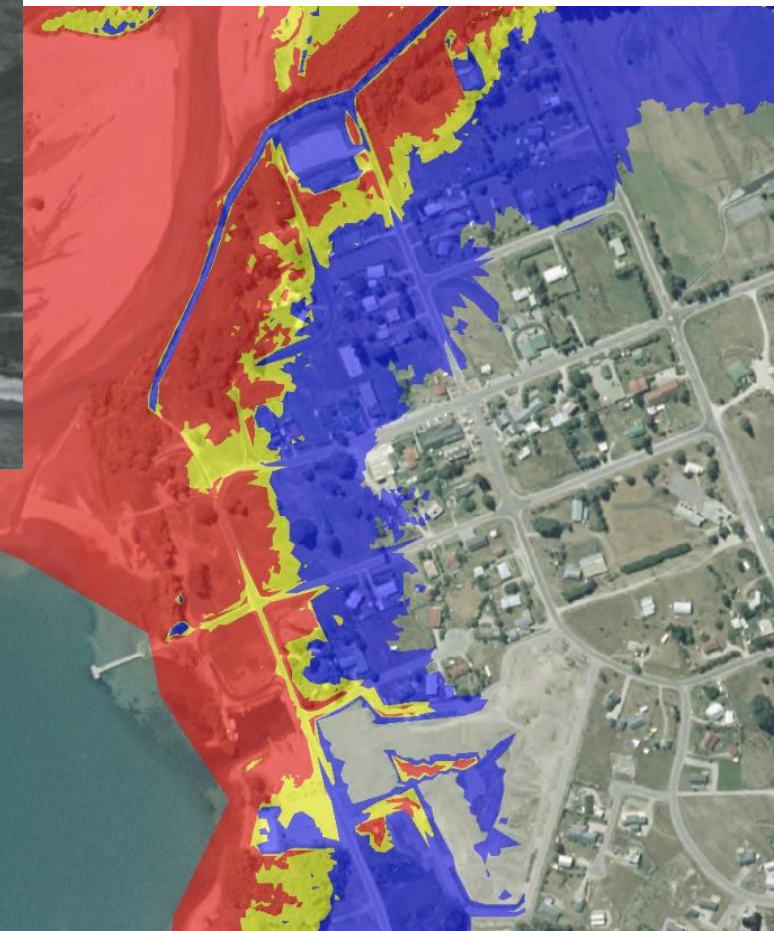
Rees-Dart natural hazards



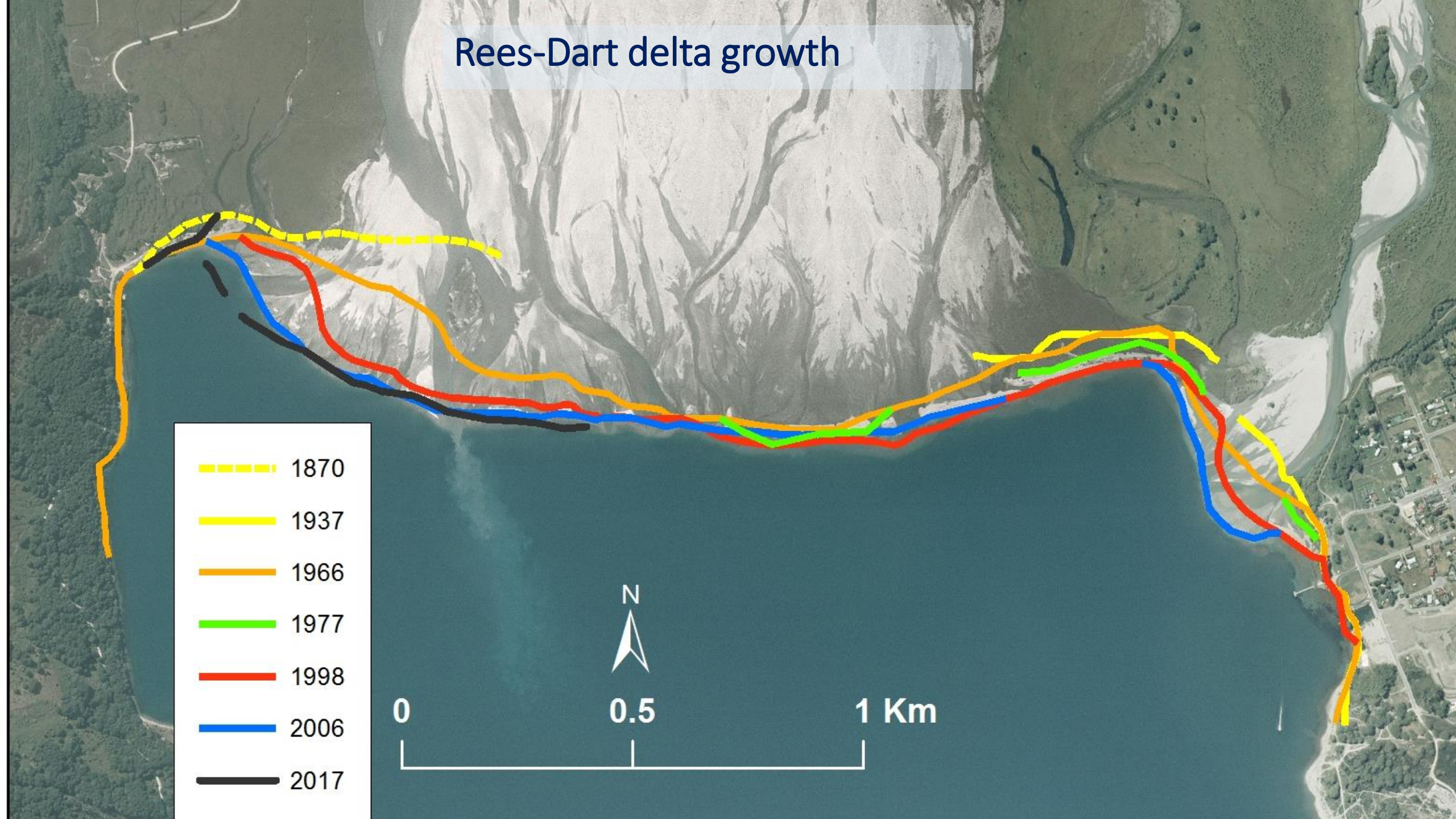
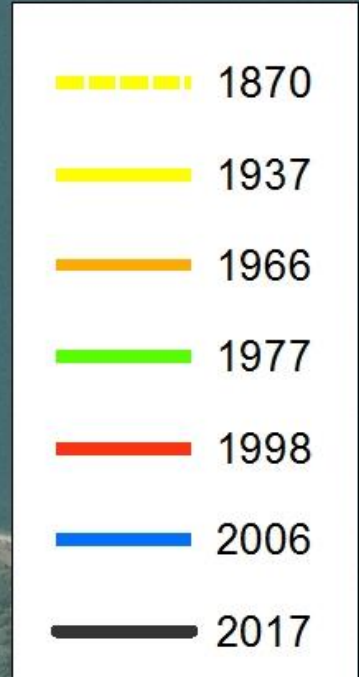
Lake Flooding



Flooding of Lake Wakatipu 1957, 311.6 m (Hocken snapshot image)

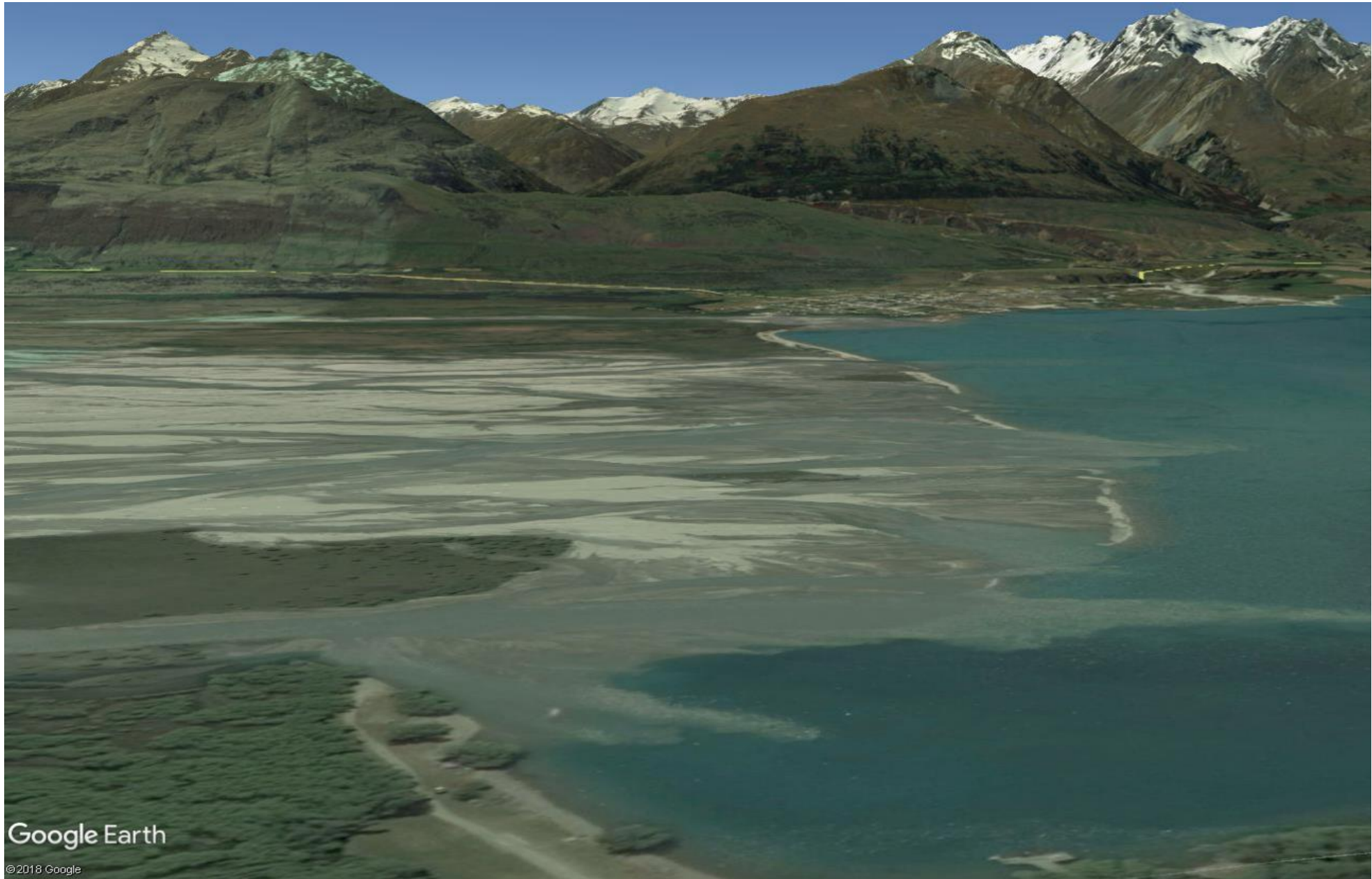


Rees-Dart delta growth





Looking towards Glenorchy from Kinloch, Wetland at Kinloch ca 1875 (Hocken Snapshot)



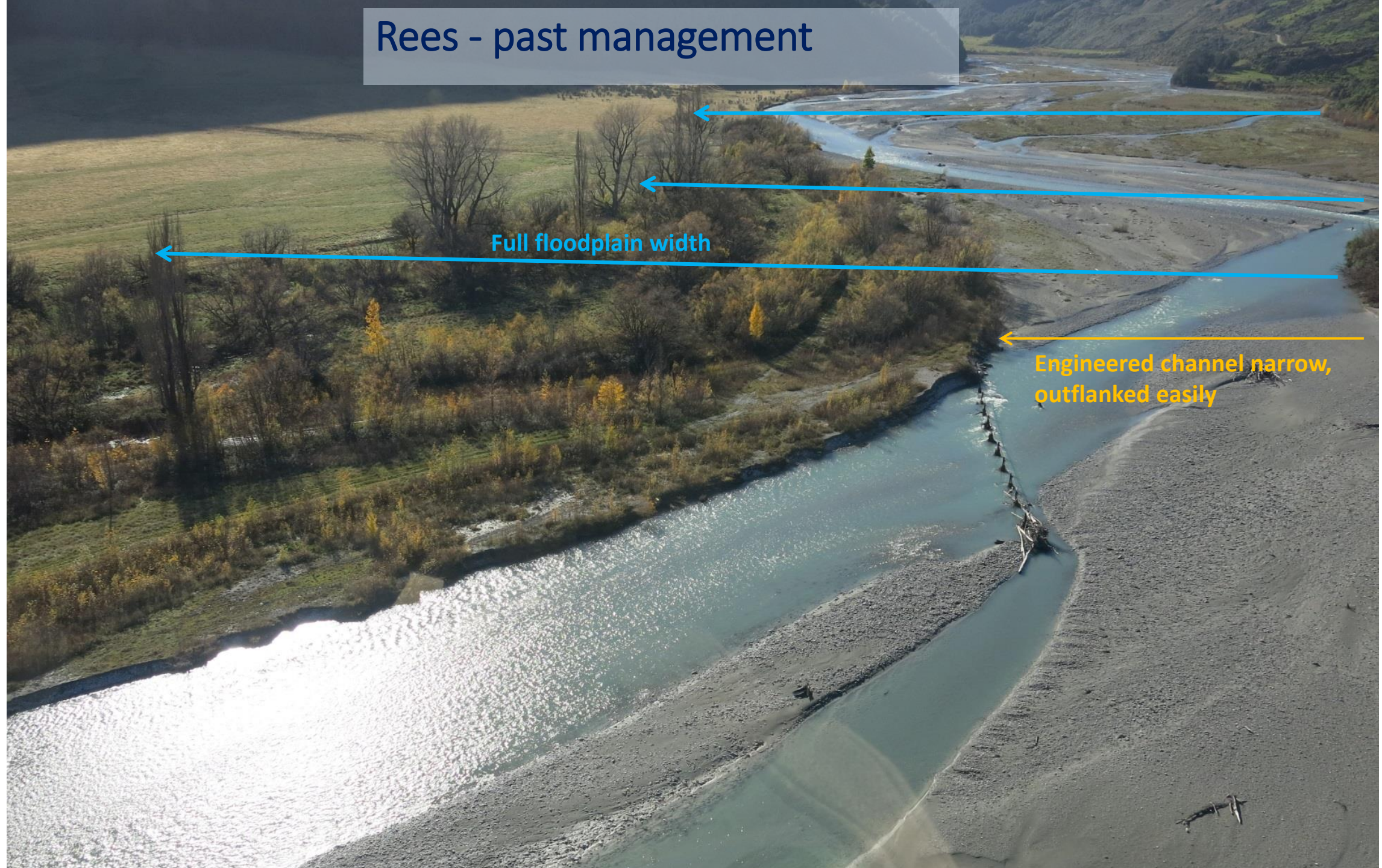
Google Earth

©2018 Google

Google Earth imagery, 2018

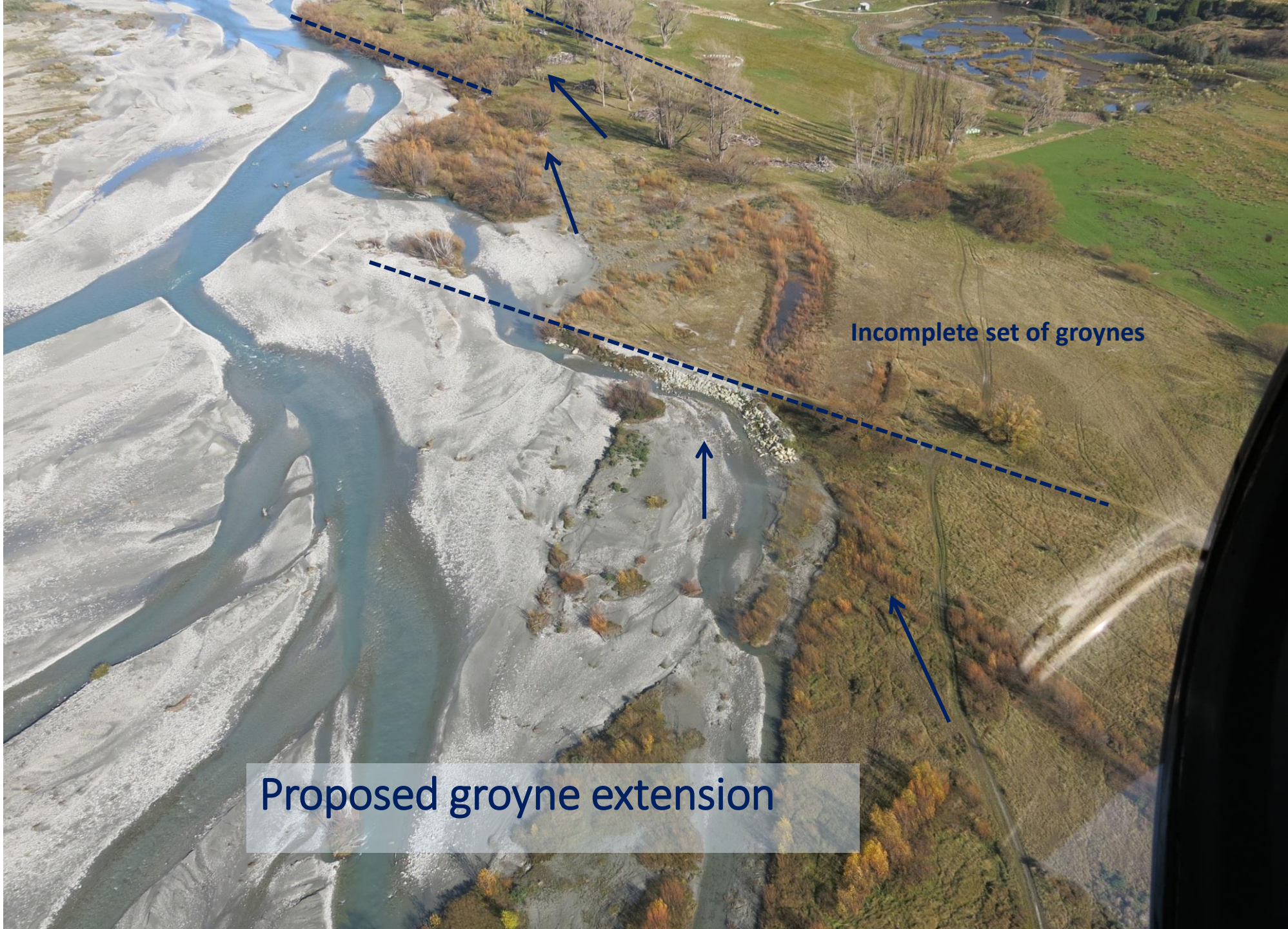


Rees - past management



Full floodplain width

Engineered channel narrow, outflanked easily



Incomplete set of groynes

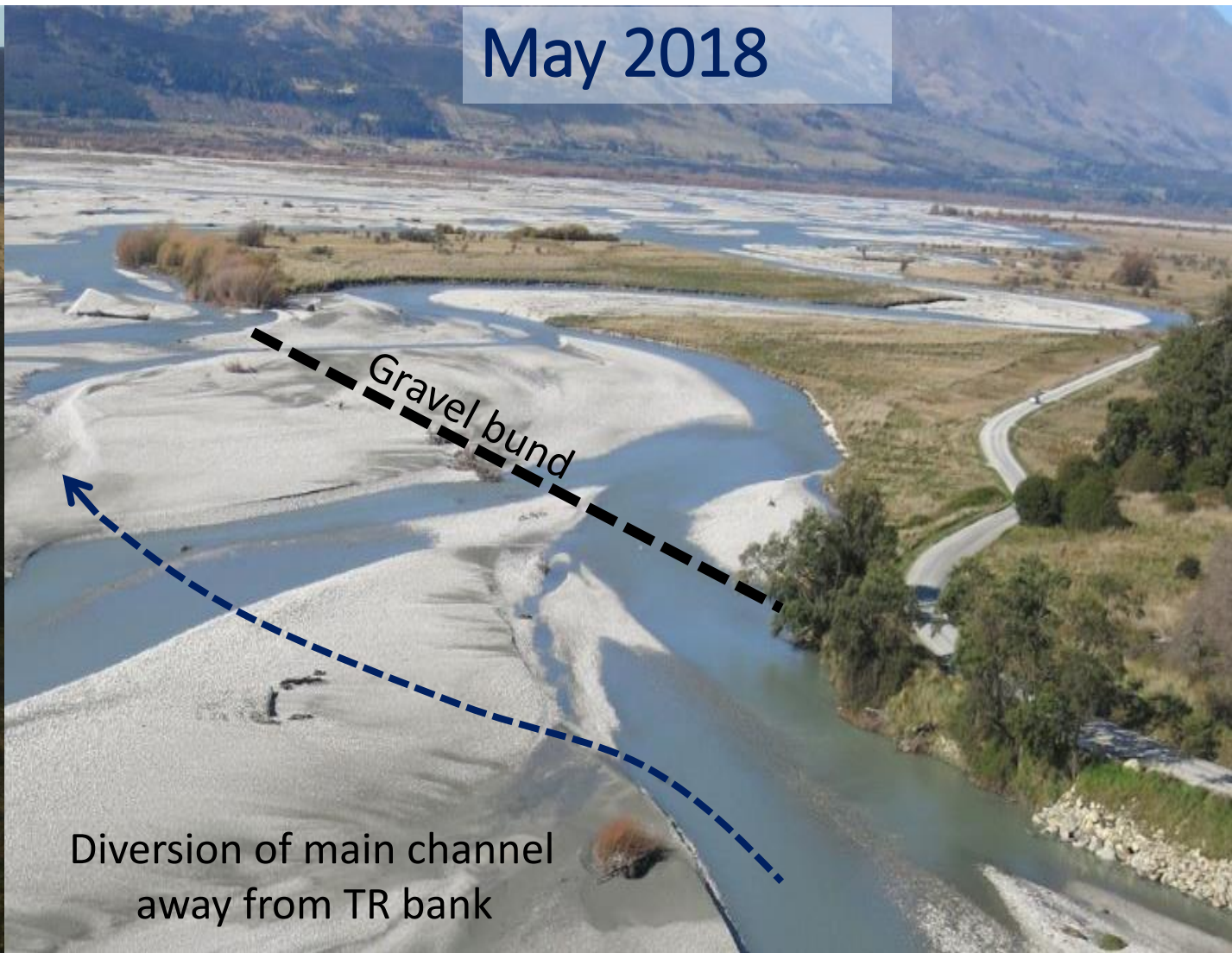
Proposed groyne extension

Dart erosion repair work

Feb 2016



May 2018



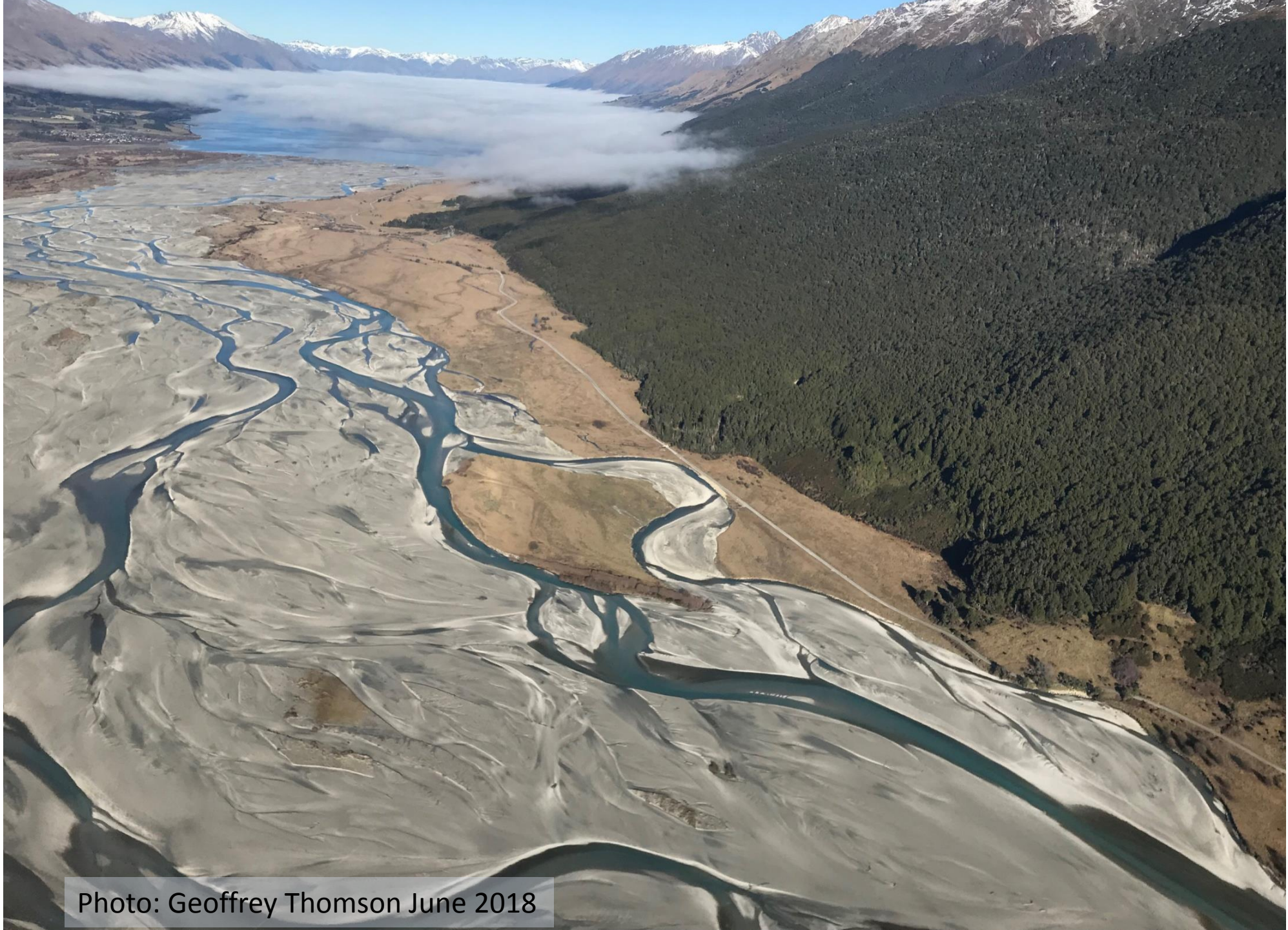
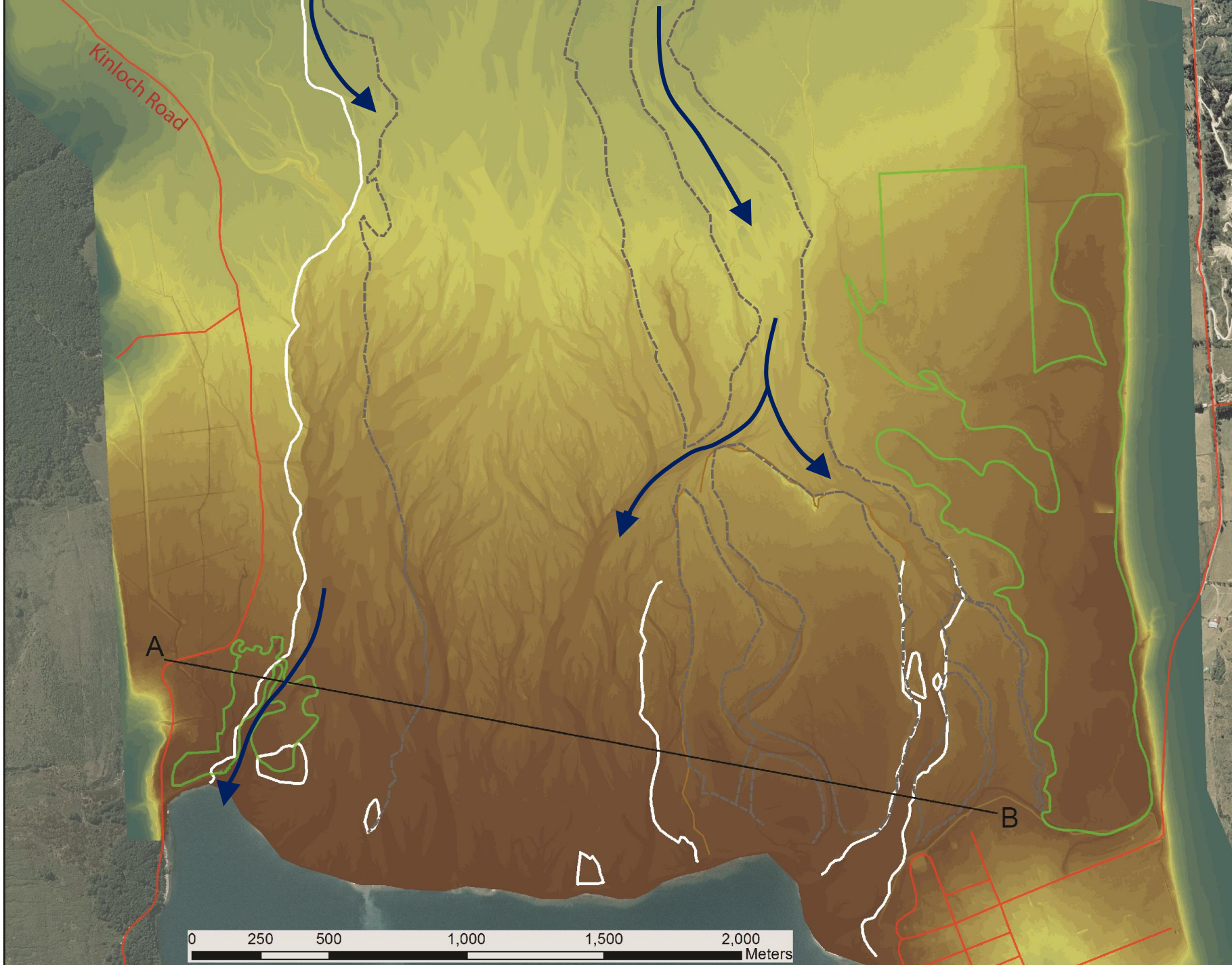


Photo: Geoffrey Thomson June 2018



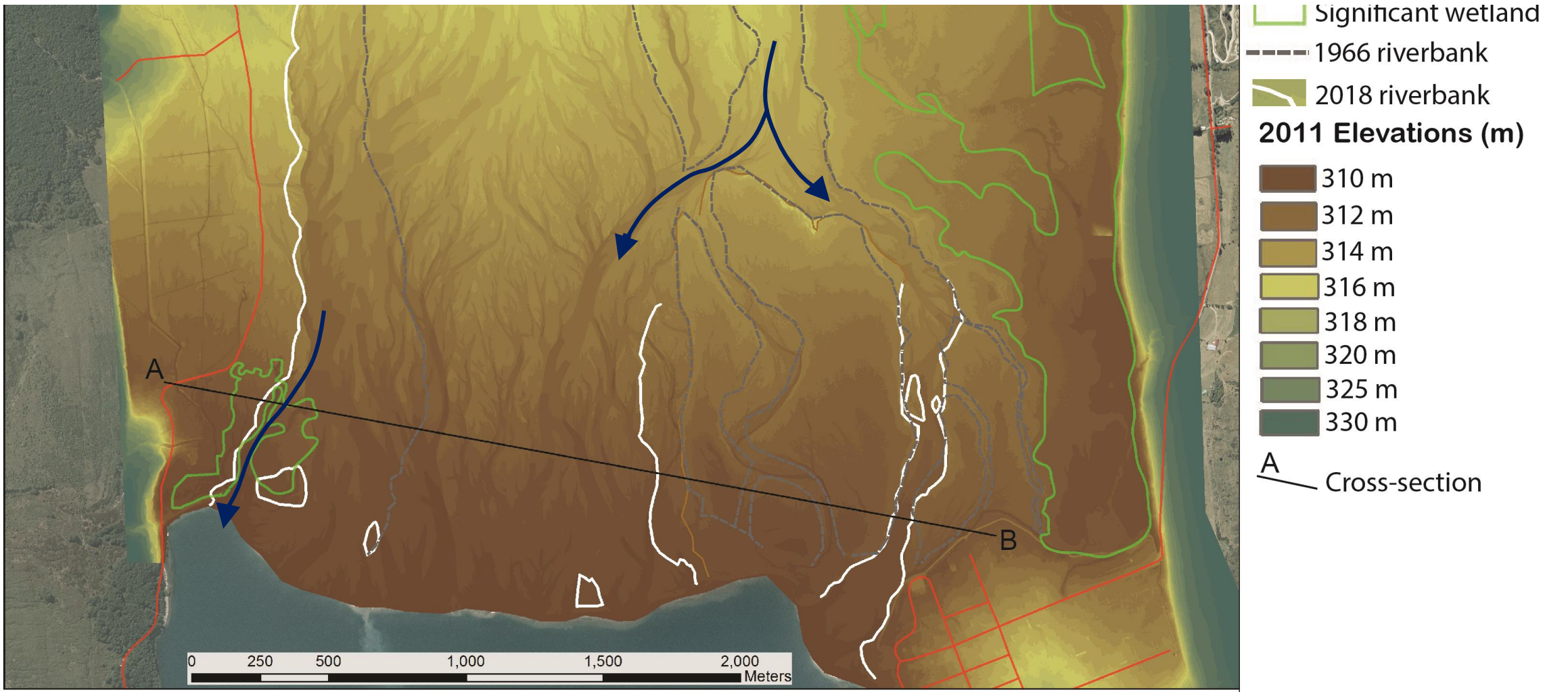
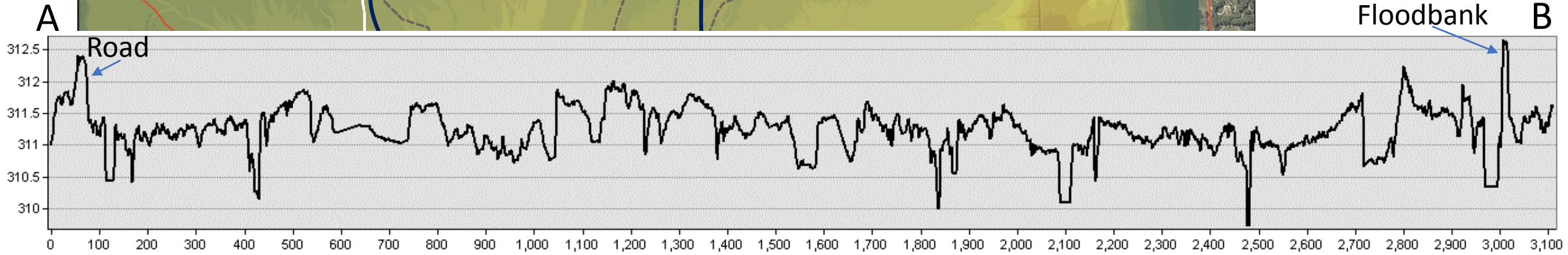


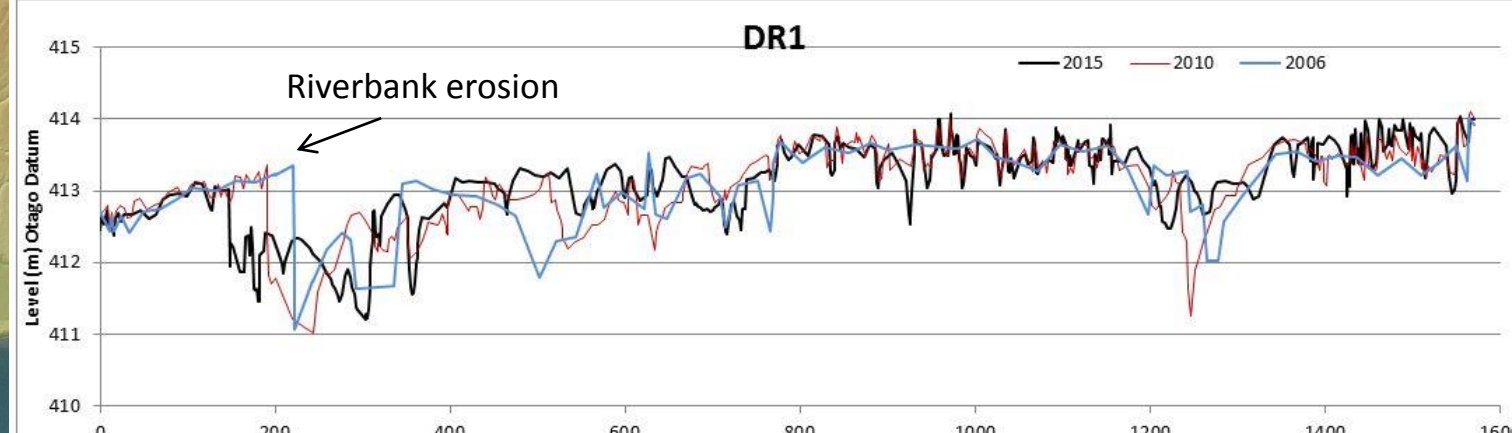
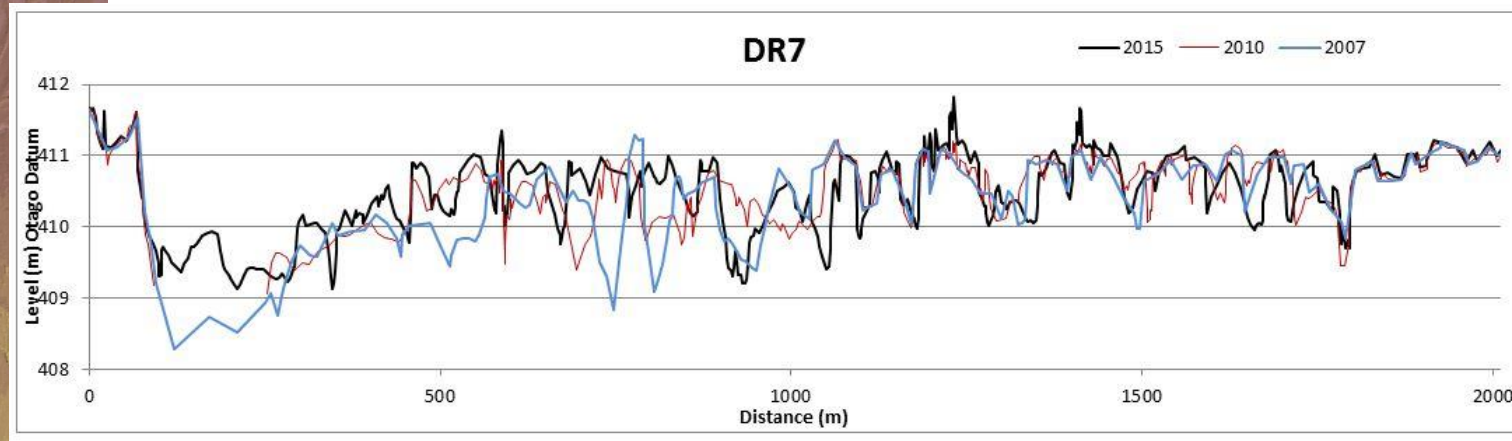
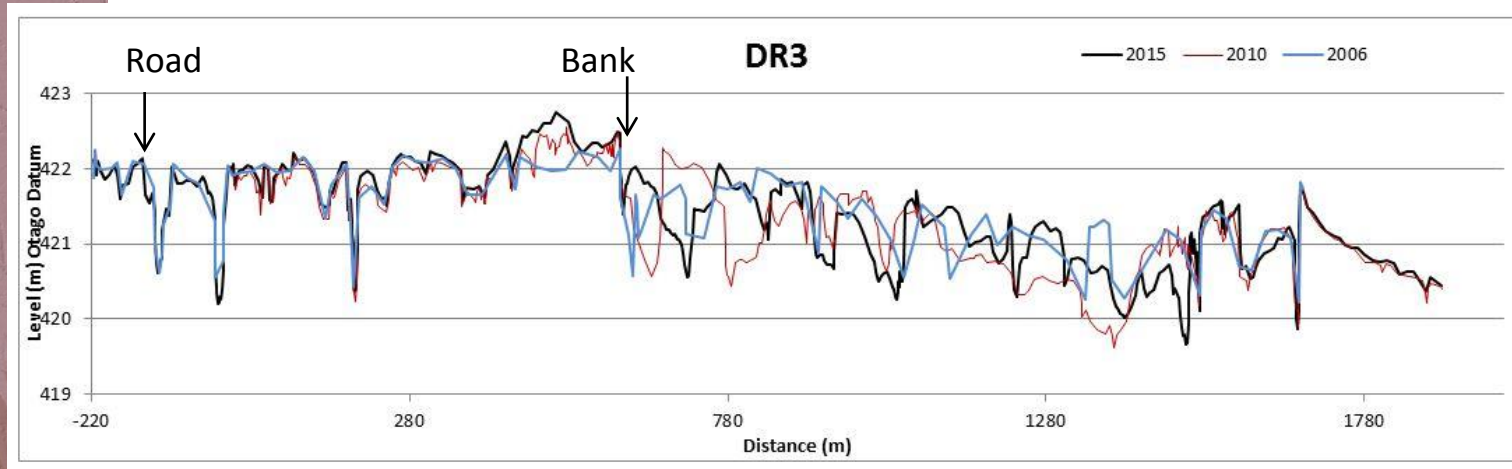
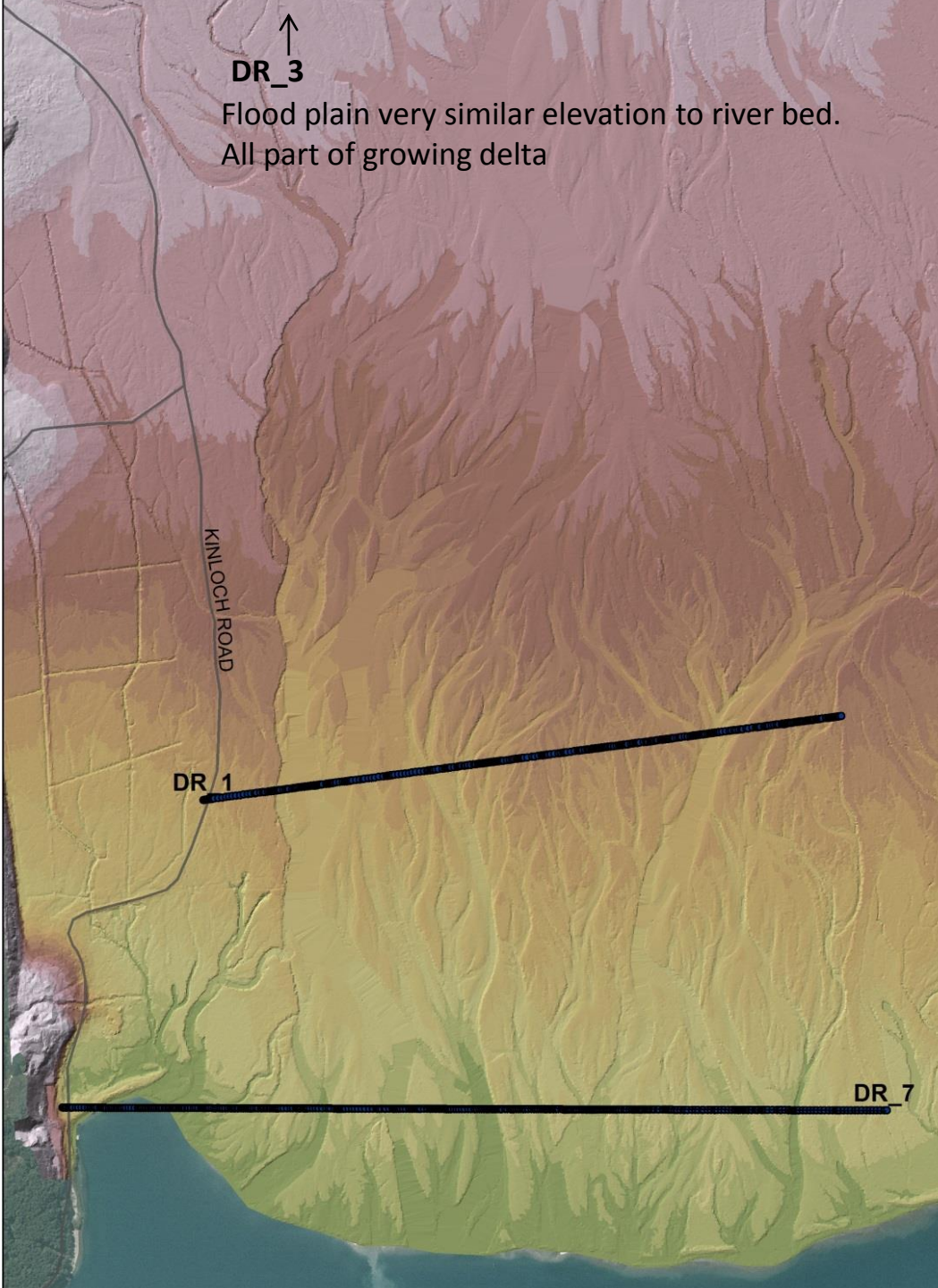
Legend

- Significant wetland
- 1966 riverbank
- 2018 riverbank
- 2011 Elevations (m)**

- 310 m
- 312 m
- 314 m
- 316 m
- 318 m
- 320 m
- 325 m
- 330 m

A — Cross-section

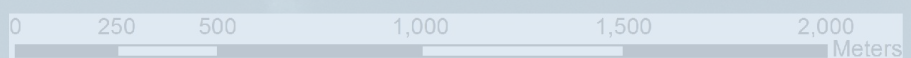




ORC –plan for next 3 years

- Addressing immediate erosion, safer roads
- Repair of critical floodbanks and groynes
- Responsive river management as needs arise

- Define key issues for longer term plan
 - Balancing tourism needs: jet boats, preserving wetlands, improving roading and infrastructure
 - Allowing room for the river, ‘soft’ management
 - Cannot protect against delta growth indefinitely
 - Climate change: projected increasing rainfall on the divide, flood height and frequency
 - What is ‘critical’ for local/district/regional rate base?

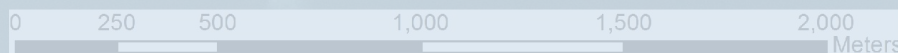


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Reduction
Readiness
Response
Recovery



ORC –plan for next 3 years



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Reduction
Readiness

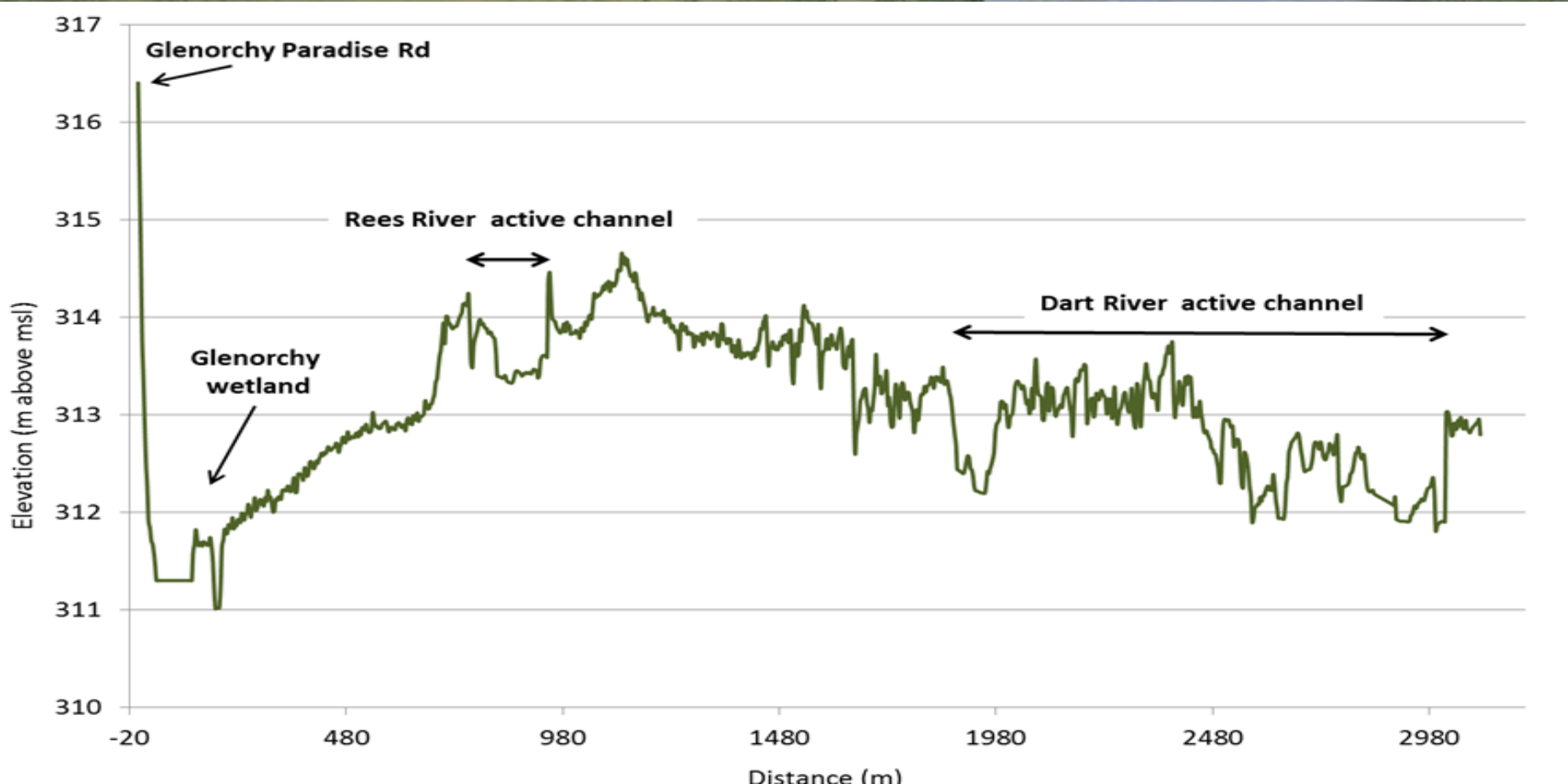
Response
Recovery

0 250 500 1,000 1,500 2,000
Meters



Example of options for Dart River erosion (not an actual cost-benefit analysis)

Extra slides



Extra slides

