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Committee Secretariat
Environment Committee
Parliament Buildings
Wellington
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Reference: Submission on Natural and Built Environments Bill and Spatial Planning Bill.

1. BRaid appreciates the opportunity to submit on the Natural and Built Environment Bill and Spatial Planning Bill.

2. BRaid does not wish to speak in support of our submission as our submission aligns with submissions made by Environment Canterbury, NIWA, Te Rūnanga o Ngāi Tahu (TRoNT), Mahaanui Kurataioa Ltd, and the Environmental Defence Society, with particular reference to water, rivers, wetlands, and coastal issues.

3. BRaid was formed in 2006 by stakeholders from across the South Island concerned about the declining state of our braided river species and ecosystems. It became an Incorporated Society in 2010 (No: 2453663) with Charitable Status in 2013 (Registration Number CC50089). Functioning as an umbrella group, BRaid works to protect, enhance and restore braided river ecosystems through co-operation and partnerships with Environment Canterbury (ECan), the Department of Conservation Te Papa Atawhai, Land Information New Zealand Toitū Te Whenua, iwi, individuals, and commercial and recreational stakeholders.

Braided rivers

4. Braided rivers are some of the most biologically productive and rare ecosystems on Earth. Braided rivers occur only where a very specific combination of climate and geology allows rivers to form highly mobile and often interlinking channels (or braids) across a wide gravelly riverbed. The frequent shifting of braids is an important natural characteristic as it results in areas of braided riverbed of varying ages, which result in diverse habitats for native plants and animals, some of which are threatened. The frequent shifting of braids means that braided riverbeds (braidplains) include both water and land and require room to move beyond the area that is occupied by braids at any point in time.

5. In Aotearoa, braided rivers formed during the Quaternary Period when mountain glaciers that carved out wide alpine valleys retreated during warmer inter-glacial epochs, leaving behind glacial moraines composed of gravels. In Te Waipounamu, during this 2.5-million-year Period, braided rivers carried these gravels to the shallow ocean at the coast, extending the coastline as alluvial fans. Two of these alluvial fans coalesced into the megafans that we now call the Canterbury and Amuri Plains.

6. Geological evidence shows that during the last 4,000 years of the Quaternary Period, the Holocene Epoch, sea levels were stable. One of these braided rivers, the Waimakariri, delivered enough gravel to the southern coast of Pegasus Bay (Christchurch), to extend the coastline 4-6km seaward.

7. Braided rivers are both hydro-geomorphological and ecological *systems*. They provide critical life-supporting services: their wetlands act as kidneys to clean waterways, and as sponges, absorbing floodwaters and calming their destructive tendencies. Through healthy microbial, fungal, and invertebrate communities, freshwater in braided river systems filter and cycle nutrients, enabling and supporting unique and endemic aquatic and terrestrial biodiversity and providing clean water.

8. In recognition of their importance and value, braided rivers are the only *ecosystem* in the ten broadly targeted areas to have its own set of targets in the Canterbury Water Management Strategy.

9. Braided rivers are also recognised as a special place 'in its own right' in the Canterbury Conservation Management Strategy 2014-2024.

10. As per ECan's submission (paragraph 80) it is disappointing and alarming that the NBE continues to take a reductionist approach to river management, with rivers compartmentalised into individual components ('river', 'land', 'bed' and 'margin'). This flawed Euro-centric approach gives no regard to braided rivers as inextricably interlinked life-supporting ecosystems.

11. Retaining these proscriptive categories, 'river', 'land', 'bed' and 'margin', propagates a flawed strategy for the purpose of assigning an economic value to single components to exploit them or regard them as hazards to be confined and controlled.

12. As per ECan's submission (paragraph 82); If the values of braided river systems are to be protected and te Oranga o te Taiao upheld, a far more integrated framework is needed that recognises connections between different parts of river systems. This could be achieved by including a definition of "braided river" and "bed of a braided river" which takes into account the dynamism and unique hydrological characteristics of braided river systems.

13. A new definition is proposed for insertion in the clause 7 Interpretation:

    a. '**Braided river** means a body of freshwater featuring multiple channels that are continuously or intermittently flowing across a wide braid plain, either confined by geographic features or unconfined on alluvial plains.'

14. This is supported by policies (WM 12.16 and 12.17) in the Wai Māori chapter of the Mahaanui Iwi Management Plan (p. 94)

    a. '*WM12.16 To advocate for buffer zones on braided river margins that are least the width of the river itself, as a buffer against land use and development*

    b. .'*WM12.17 To oppose the use of river and lake beds and their margins for farming activities, including the conversion to pasture, grazing of stock and growing of winter feed crops*.'

15. In the NBE, clause 40(3) refers to environmental limits relevant to ecological integrity must be set to reflect

    a. the state existing in a management unit; or

    b. the amount of harm or stress occurring to the natural environment in a management unit.

16. If the term is used to mean that limits must be set to reproduce or correspond to the existing level of harm, then this does not allow for limits to be set where they have already been exceeded. Where an overallocation of a resource has already been identified, that status quo could be reinforced and result in a degraded resource where clawbacks could be reallocated within a degraded limit.

17. Most braided rivers have been forced into unnatural state, therefore, they could be regarded as no longer natural environments but rather, highly modified environments.

18. As per ECan's submission (paragraph 98), BRaid agrees very specifically that it is highly concerning that entry to the exemptions framework is not subject to gateway tests (e.g. requirements for proposals to be of national or regional significance with demonstrable public benefit) and that consultation with mana whenua and regional councils is not required before requests for exemptions are made by Regional Planning Committees. The Council notes the decision to request an exemption will be influenced by the composition and aspirations of the Regional Planning Committee. To ensure all relevant perspectives are taken into consideration, the Bill should require Regional Planning Committees to seek direction from mana whenua and regional councils prior to requests for exemptions being submitted to the Minister.

19. Similarly, we have concerns with clauses that allow the Minister to set interim limits that allow for a greater level of harm or stress or which represent an environmental state that is more degraded than existed at the commencement of the Act. These provisions undermine system outcomes relating to protection and restoration of the natural environment and are incompatible with statements in the consultation document that promote a 'no-degradation' framework. Ministerial decisions reflect the extant political landscape, which may not give greater weight to attributes other than environment or mana whenua priorities.

Drains

20. The word 'drain' is a Euro-centric term with pejorative connotations around discharge or dumping of waste and support no definition of 'drain' (as a noun) in the NBE.

21. The majority of 'drains' are modified natural waterways designed to starve wetlands of water in order to enable the conversion to and ongoing management of agriculture.

22. 'Drains' are hydrologically linked to waterways including braided rivers.

23. The ecological function and with it, cultural health of almost all of Canterbury's waterways are degraded as a result of inappropriate 'drain' and waterway management.

24. Given that most 'drains' are modified natural waterways, some are crucial breeding habitats for the Canterbury mudfish, tuna (eels), and near the coast, inanga (whitebait).

25. This also raises the argument of whether a 'drain' is a modified or a natural waterway, particularly in a landscape that contains or did contain a significant number of wetlands or interconnected water systems.

26. We proposal removal of the reference to 'farm drainage canal' in the NBE as these will most likely connect to a natural water course and require fish passage and other environmental values to be protected.

27. The term ‘drain’ should be clearly defined in terms of its purpose. In urban areas its specific role is to remove excess water during pluvial events.

    a. This requires urban drains to be kept clear of obstruction including vegetation

    b. In rural settings, riparian vegetation is essential for the ecological integrity of what were once natural waterways.

28. We have further concerns about the definition of ‘river’ in the interpretation clause of the NBE. A river:

    a. *means a body of freshwater that is continuously or intermittently flowing; and*

    b. *includes a stream and modified watercourse;*

    c. *but does not include an artificial water course, including an irrigation canal, a water supply race, a canal for the supply of water for electric power generation, a farm drainage canal, or any other artificial watercourse*.

29. This is contrary to Policy WM 14.1 (p. 96) in the Mahaanui Iwi Management Plan which states – ‘*WM14.1 To require that drains are managed as natural waterways and are subject to the same policies, objectives, rules and methods that protect Ngāi Tahu values associated with freshwater*.’

Outcomes relating to existential threats, specifically climate change

30. The maximum amount of water vapour in the air increases exponentially with temperature. Hence, as the climate warms the potential for increasingly heavy rainfalls magnifies.

31. Confining braided rivers into degraded and narrowed braidplains increases the velocity of water. As water is incompressible, the potential for stopbank erosion and avulsions increases accordingly.

32. The Appendix includes images of how the original braidplain of the Rangitata River has been modified and how, following an avulsion, braids naturally use the existing morphology of the braidplain, regardless of it being converted to agriculture.

33. Consideration does not appear to have been given to the risks from pluvial and fluvial flooding outlined in the 2019 NIWA report, and the risks outlined in the National Climate Change Risk Assessment and National Adaptation Plan. We submit that giving braided rivers room to move across more of their original braidplain upstream of critical infrastructure and urban development is crucial to reducing risk and mitigating both the present and future impacts of flooding.

34. Confined braided rivers no longer deliver gravels and sediment to coastal margins to replenish soft shore coasts vulnerable to rising sea levels. During high water flows sediment and gravel carried by confined braided rivers is forced out through narrowed mouths into the ocean. Flowing out at higher velocities carries much of it into waters too deep for beach building waves to carry back to shore. One such example is the narrow mouth of the Waimakariri River. In reference to paragraph 6 above, the Waimakariri River no longer delivers sufficient sediment to replenish beaches that might otherwise mitigate or delay the effects of rising sea levels.

35. The protection of what remains of braided rivers, and restoration of them as natural environments should be prioritised to ensure healthy environments that support human well-being by restoring ecosystem services and reducing multiple hazards posed by climate change.

Appendix:

Image 1: Courtesy of Canterbury Maps

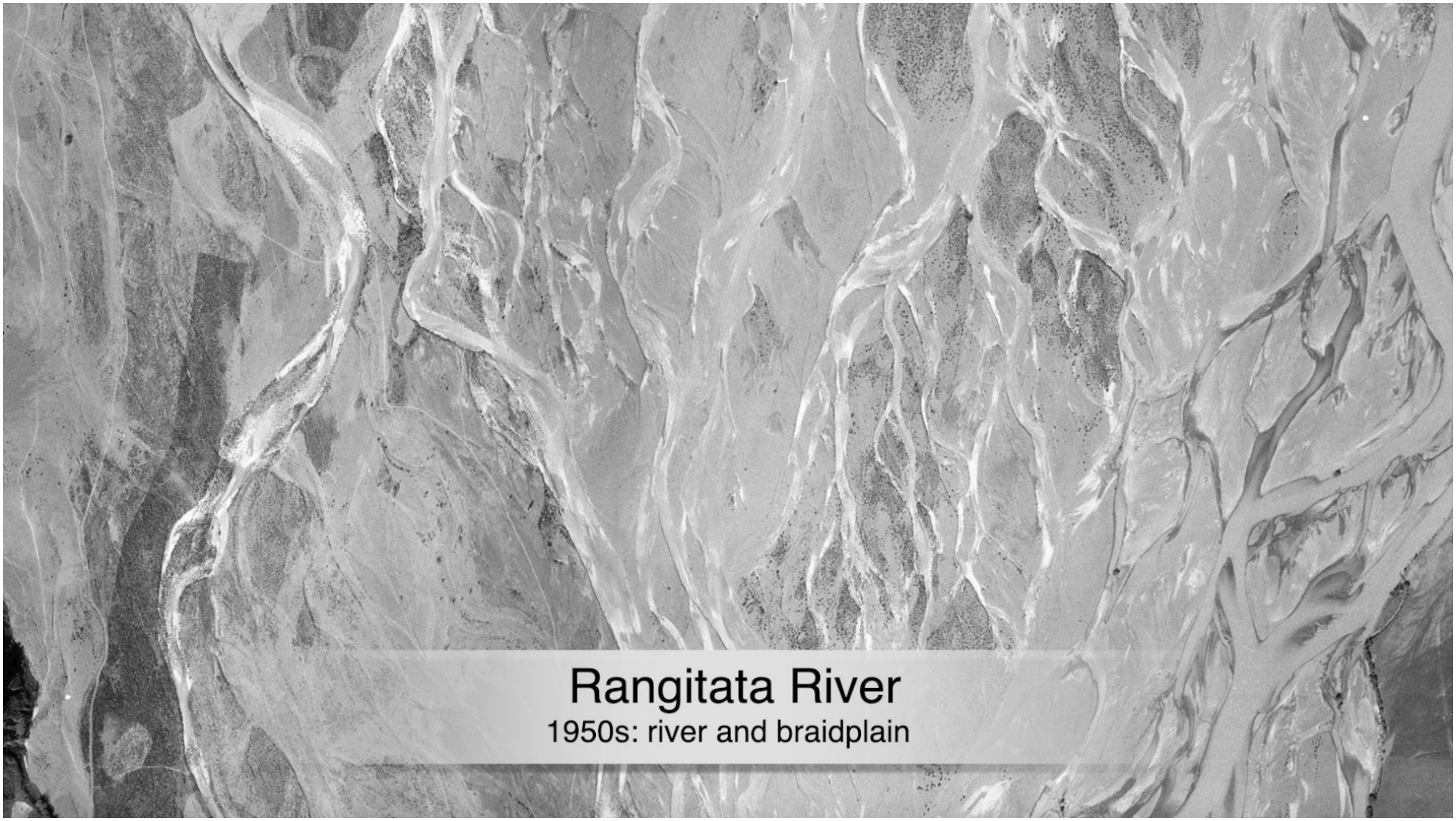

Image 2: Same location; image Google Earth

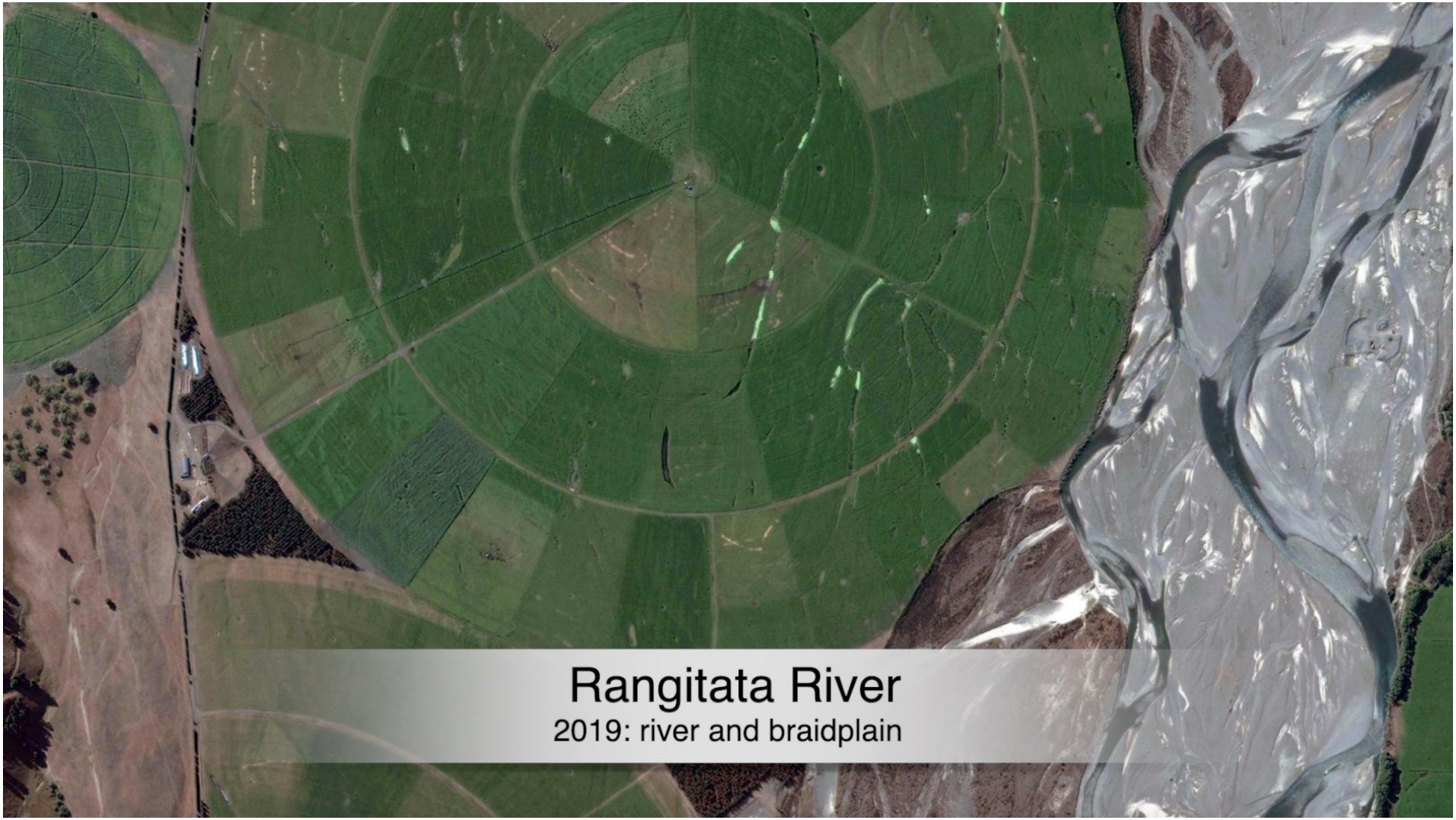

Image 3: Wider view; image courtesy of Canterbury Maps

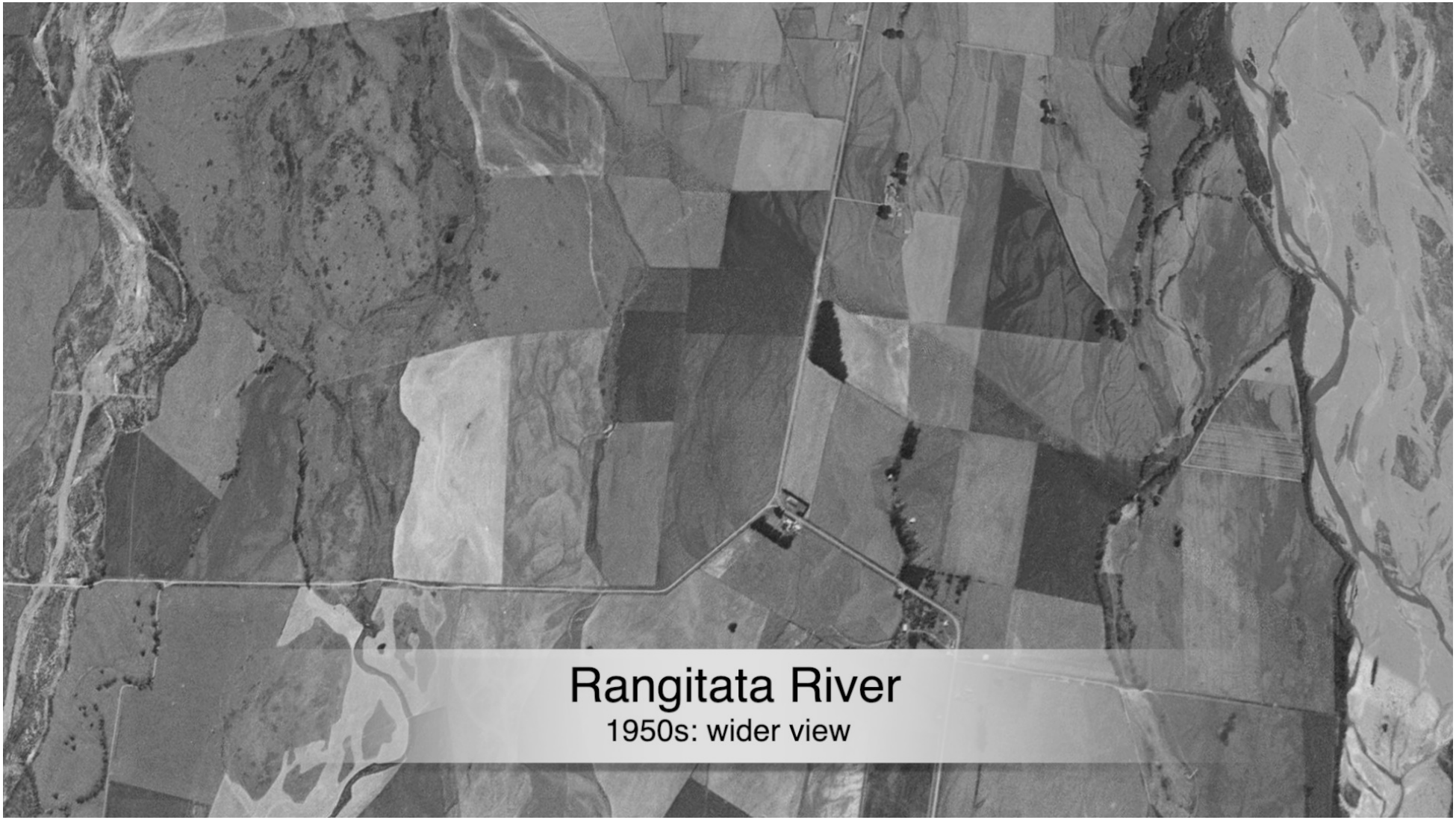

Image 4: Same location; image Google Earth

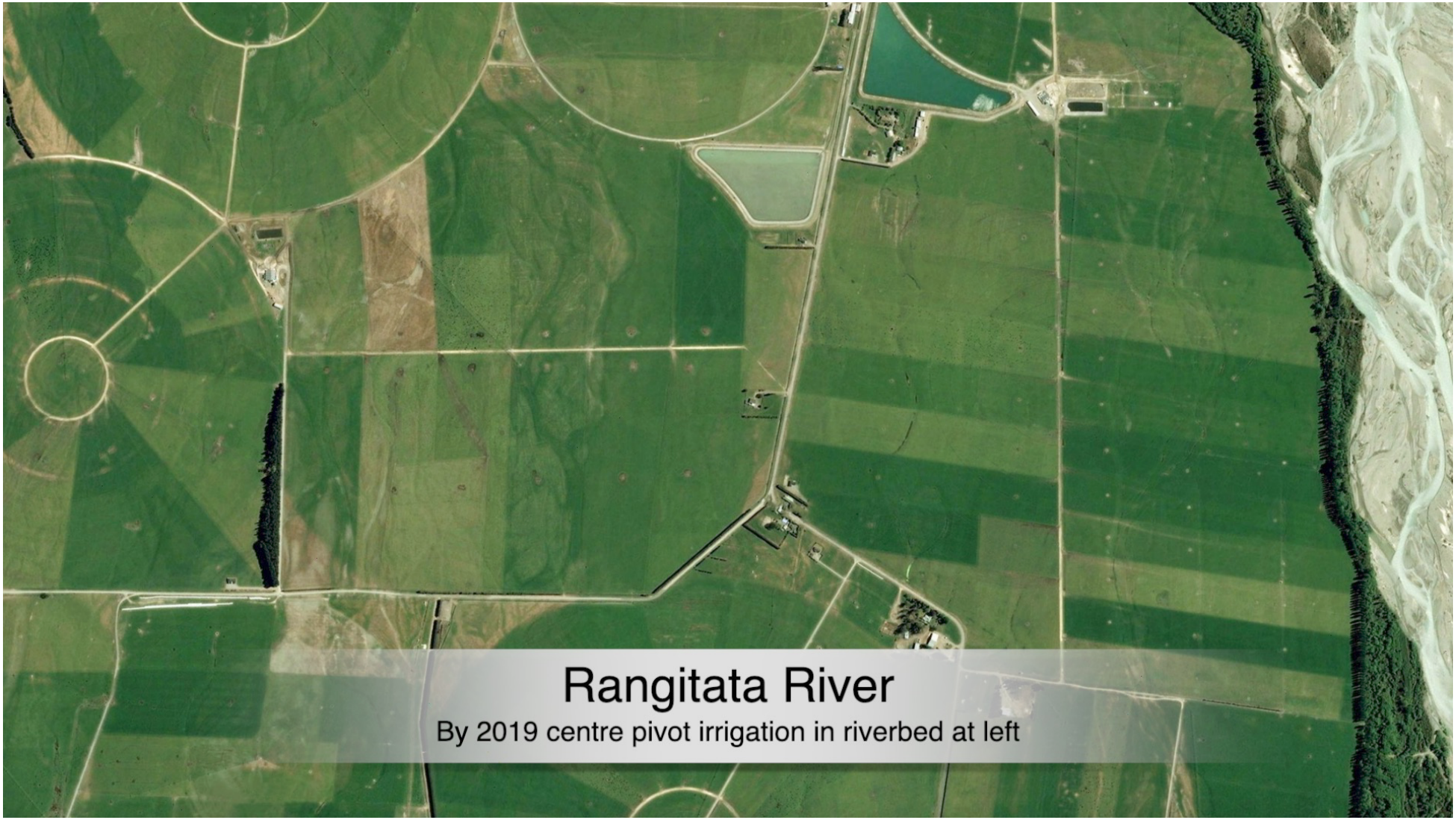

Image 5: Same location; image courtesy of Environment Cantebury