

SPOKEN SUMMARY – David Aires

1. My name is David Aires, I am employed as the acting Rivers Manager for the Canterbury Regional Council, and I have over 28 years' experience in the civil engineering field including 21 years of operational experience in river management.

I would like to provide some clarification/corrections/ numerical updates to my evidence:

- Paragraph [9] - My full name is David Julian Aires.
- Paragraph [20] – The combined value (depreciated replacement value) of the scheme assets is \$852 million (June 2022). About \$14 million per year (2023) is spent maintaining the scheme assets to reduce damage to floodplain assets (i.e. land, buildings, roads etc) valued at around \$179 billion (2023).
- Paragraph [33] - As outlined in our Asset Management Plan, the Local Government Act requires 6-yearly (strikeout) reporting on scheme performance. For our...
- Paragraph [39] - ... Environment Canterbury have 668km (June 2022) of stopbanks that are of varying age, construction, and design level.
- Paragraph [46] - Environment Canterbury has 1,572km plus 824ha of flood protection vegetation (June 2022). Most trees are valued by length {Anchored tree protection (ATP) plus an average width of berm plantings}, some trees are valued as planting only, on an area basis. These species...
- Paragraph [57] - Environment Canterbury oversees the management of around 781km (June 2022) of drainage network with approximately 370km sprayed each year. Drainage schemes...

The key points raised in my evidence are:

2. Environment Canterbury manages river and drainage schemes that were established through historic legislation, and now managed through the Soil Conservation and Rivers Control Act 1941 and Land Drainage Act 1908. The annual works programmes for the fifty-eight (58) scheme assets have a combined value of \$852 million, an annual expenditure of about \$14 million per year and protect floodplain assets valued at around \$179 billion (2023). Annual ratepayer meetings are held for most rating districts where the works and costs for the year to date, the proposed works programme and costs for the upcoming year and the condition of the scheme is discussed.
3. Across the regions rating district schemes and projects, the annual expenditure directly attributed to agrichemical operations varies significantly. Currently the total spend on agrichemical operations is only a small proportion of annual spend.

4. Whilst the majority of Regional Council flood protection works occur within established schemes, flood recovery, community requests or other opportunities result in the Regional Council undertaking flood, erosion or drainage protection works, often associated with other river enhancement work, outside of schemes, sometimes at short notice.
5. Weed management is crucial to ensure the flood protection assets and systems are well functioning and protecting the community. The discharge of agrichemicals is a key component and efficient way to meet outcomes associated with flooding, erosion, asset management and wider biodiversity values endorsed by the communities funding these works across Canterbury.
6. Basic river management levels of service can be summarised as follows:
 - (a) maintaining a cleared fairway for floodwaters to safely pass out to sea,
 - (b) providing an appropriate vegetated buffer to slow out of river floodwaters, and
 - (c) the construction of stop banks and associated structures to keep people and land safe. Drainage management is critical for regulating groundwater levels for land use and ensuring unrestricted passage for conveyance.
7. The use of agrichemicals plays a vital role to meet the desired river management outcomes.
8. If weeds are not well managed, they threaten to undermine the capacity a river has to safely pass flood water, or the ability of a drain to convey water away from productive or urban land.
9. Weeds can alter the direction and impact of high energy flood flows in the river fairway; can damage the vegetated berm buffers along the edge of rivers which provide a vital role in slowing out-of-river floodwaters. They can also weaken the structural integrity of built assets, such as stopbanks and groynes.
10. Having permissions to carry out this work is fundamental to meeting the expectations of the community and council's ability to deliver on the work.
11. The failure of flood protection assets can be catastrophic, including the risk of significant loss of life. Weed management is a key component of asset management maintenance playing a critical role in preserving life, providing for well-functioning communities, economic resilience, and protection of public and private assets.