

IN THE MATTER OF

the Resource Management Act 1991 (**the RMA**)

AND

IN THE MATTER OF

of resource consent applications by Gisborne District Council – Community Lifelines (**the application**) for construction and upgrading of approximately 4.2 kilometres of stop-banks, associated earthworks, road raising, drainage and stormwater infrastructure, works within and adjacent to the Waipaoa River, temporary water take and discharge activities during construction, vegetation clearance, temporary access works, service relocations, and landscape planting and site reinstatement.

11 September 2026

STATEMENT OF EVIDENCE OF Scott Wilson

INTRODUCTION

1. My full name is Scott Harold Wilson
2. I am an independent Horticultural Consultant, based in Tairāwhiti, as well as the owner of a small commercial apple orchard.
3. I hold a Bachelor of Horticultural Science (Hons) degree from Massey University and have 39+ years of commercial experience in fruit production. I have spent the last 26 years living and working in Gisborne and have first-hand experience of the impact of the weather and the flood impacts of cyclone Gabrielle on local growers orchards and livelihoods.
4. From 2008- 2024, I was General Manager of Kaiapōni Farms Ltd, a large local commercial orchard, and post-harvest facility, growing Apples, Kiwifruit, feijoas and citrus. This business also provides commercial packing, post-harvest management, fruit marketing and sales services, as well as growing technical support and field operational assistance.
5. After 24 years at Kaiapōni I stepped down to now work for myself in horticultural consultancy and operate my own orchard. This work comprises technical, growing advice which is strongly linked to orchard performance and profitability. I therefore have a strong knowledge of commercial horticulture, its challenges and profitability drivers.
6. I am authorised to provide evidence on behalf of the M & W Burgess Family Trust.

CODE OF CONDUCT FOR EXPERT WITNESSES

7. I confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses, as contained in section 9 of the Environment Court's Practice Note 2023, and I agree to comply with it.

8. The data, information, facts and assumptions that I have considered in forming my opinions are set out in my evidence that follows. The reasons for the opinions expressed are also set out.
9. I confirm that the matters addressed in this brief of evidence are within my area of expertise, with the exception of where I confirm that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from my opinions expressed in this brief of evidence. I have specified where my opinion is based on limited or partial information and I have identified any assumptions I have made in forming my opinions.

Scope of Evidence

10. My evidence will cover:
11. The matters generally addressed in the submission to the application lodged by the M & W Burgess Family Trust (**the Trust**); and,
12. (b) More specifically: the flood impacts on the Orchard, the orchard business and anticipated outcomes that will occur from GDC modelled data for the new Stop-bank Protection Project around Te Karaka.
13. This statement of evidence summarises the key points made in my original report dated 20 July 2026; *A review of the Potential Flooding Impacts & Future Risks relating to Blue Willow Citrus Orchard - M & W Burgess Family Trust*. (A copy is attached as Appendix 1).

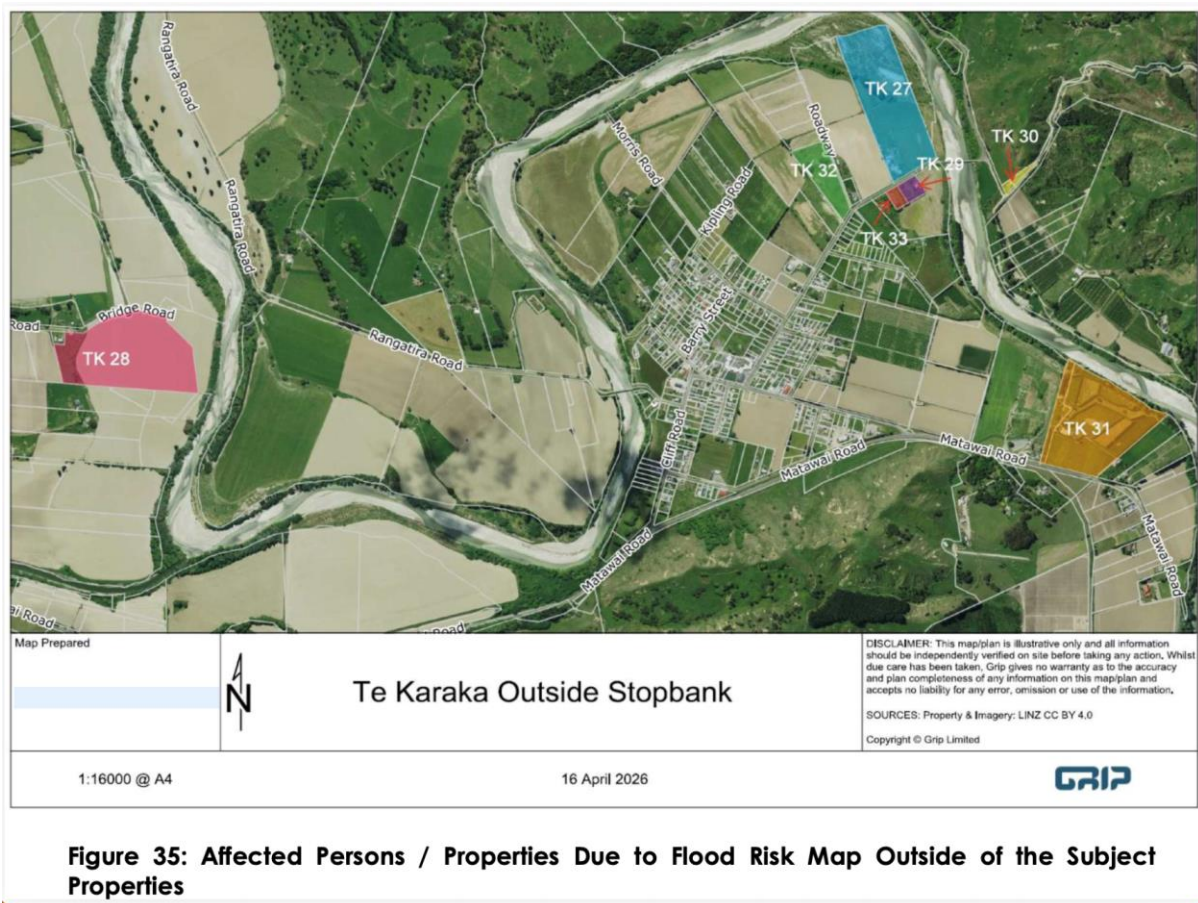
Executive Summary:

14. The key concern is that, while the proposed works are intended to improve flood resilience for Te Karaka township, the project will materially alter flood behaviour on the Burgess property, including increased floodwater velocity and a higher hazard classification during comparable flood events.
15. The planned project upgrades will increase the risks to the owners' orchard and infrastructure, their orchard business and its long-term viability.
 - a. **Direct Risks**, are: increased physical damage to the orchard trees, loss of production and greater expected damage to orchard infrastructure (shelter, fences, drains, roads and culverts) from future flood events.
 - b. **Indirect Risks**, are: the uncertainty of future profitability and return from investing any new capital into the property to both replace already damaged areas of the orchard or make any changes to the existing citrus varietal mix as trees/ varieties reach the end of their commercial life and the orchard requires re-developing to remain variable.
 - c. **Construction Risks**, These are the immediate risks to the orchard's operations and the current crop, that result from disruption to orchard operations, impediments to the ease of access, and potential damage to fruit quality resulting from dust and any other airborne contaminants, both during the project works phase and medium term, post construction.
 - d. **Post Construction Risks**. Property ease of access and exit for trucks and other orchard services such as shelter belt maintenance, and storm-water drainage resulting from stop-bank water run-off into the property and the potential for increased ponding.

Background

16. Murray and Wendy Burgess, the Trustees of the M and W Burgess Family Trust, trading as Blue Willow Citrus Ltd, have operated their commercial citrus orchard at 2416 Matawai Road, Te Karaka, since 2002. The property comprises 11.971 hectares, with 7.5 hectares planted in mixed citrus. The citrus varieties comprise Satsuma mandarins, lemons, navel oranges, grapefruit and limes. The variety mix ensures a constant and regular harvest mostly over the months April to December. The property suits an “owner operator” using local labour to assist with fruit harvesting. Most trees are mature (15 years +) with the Burgess’s redeveloping 60% of the orchard area since its purchase in 2003.
17. The trees’ production levels have been well above industry average citrus yields and fruit grades have resulted in a high percentage of Class/Grade 1 fruit.> 80%.
18. The property borders the Waipaoa River on its northern boundary and is the first property and residence south of Te Karaka township that sits outside the protection of the existing stop bank infrastructure. (Table 1 Ref TK 31)

Table 1: Owners’ Property Location (TK 31) – Affected Persons



19. The Trusts’ property has been subject to historical flooding events, most recently the major flood event that occurred on 14 February 2023 during Cyclone Gabrielle. That event over-topped the existing stop-bank system around the Te Karaka township and resulted in significant property damage around Te Karaka and nearby properties including the Burgess orchard.

20. The property suffered significant damage to the orchard, the Burgess residence, sheds and orchard infrastructure. The Trustees have advised that part of the orchard (16% of the productive area Table 5) has not been redeveloped due to capital restraints and a lack of confidence and uncertainty about how the intended changes to the stop bank alignment may adversely affect the property.

Flood Modelling Evidence;

21. Access to the property-specific flood modelling data resulting from the planned stop-bank upgrades was limited at the time of compiling this report. However, in a letter to Murray and Wendy Burgess dated 18 June 2026 from The Property Group acting for Gisborne District Council, showed that the new stop bank alignment will result in a 66% increase in floodwater velocity, or an increase of 0.43 m/s, in an event of the same scale as Cyclone Gabrielle. (Table 2).). The information in that letter is reproduced in Mark Hooker's evidence at paragraphs 10.25 – 10.29.

Table 2: Summary of Expected Flood Outcomes Resulting from the Stop-bank Upgrades to the Burgess Property.

Modelling factor	Reported change or classification	Practical implication for the Burgess property
Mean flood depth. As per Gabrielle	Reported reduction of approximately 210 mm, or 26%, in the referenced scenario.	Depth reduction does not, by itself, remove risk where water velocity and hazard classification increase.
Mean floodwater velocity. As per Gabreille	Reported increase of approximately 0.43 m/s, or 66%.	Higher velocity increases the likelihood of tree damage, infrastructure damage, soil scouring, debris impact, and access disruption.
Maximum hazard class.	Reported shift from H3 to H4, with correspondence also indicating movement to H5 under a 1% AEP event.	Higher hazard classification raises concern for people, vehicles, buildings, orchard assets, and the long-term viability of permanent horticulture.

22. When this property-specific data is applied to the Flood Risk Curves that are used by the GDC to model the Flood Risk Category under differing flood water depths and flood water velocities, the Flood Risk Hazard Classification due to flood velocities **moved from H3 to H4**. (Table 3)
23. The H4 Classification is described as "Unsafe for people & vehicles".

One In One Hundred Year Design Impacts: 1% AEP

24. In a larger event of 1% AEP (one in a hundred years) the water velocity is also modelled to increase by 68% i.e. from 0.87 to 1.46m/s, (+0.58m/s).
25. The Flood Hazard Risk rating **moves to H5 classification** under both the existing Stop Banks and the new design, however water velocities are significantly higher under the new design and therefore are likely to be more damaging. (Table 3)

Table 3 : Flood Risk Hazard Classifications

The "Australian Disaster Resilience Handbook 7 Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia (AIDR 2017)" has been adopted to evaluate the impact. This provides an overview of various risk categories (H1 – H6) based on flood depth and velocity as shown below in Figure 28.

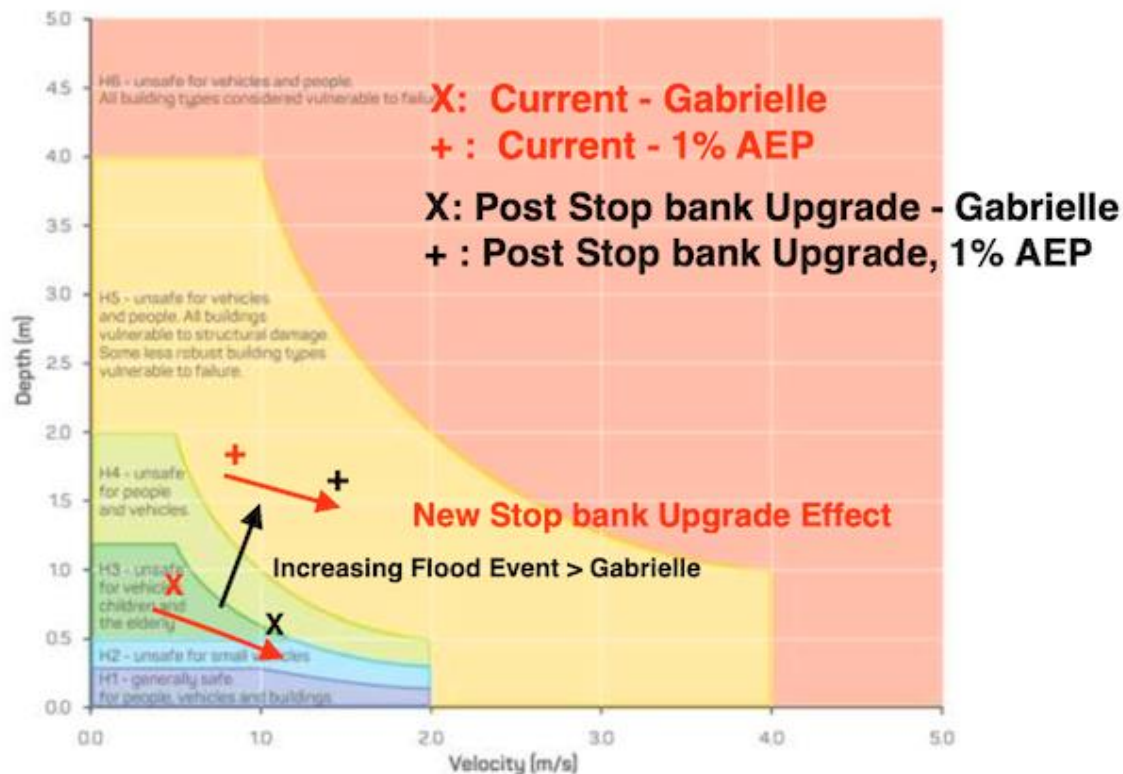


Figure 28: Flood Depth vs Velocity Risk Category

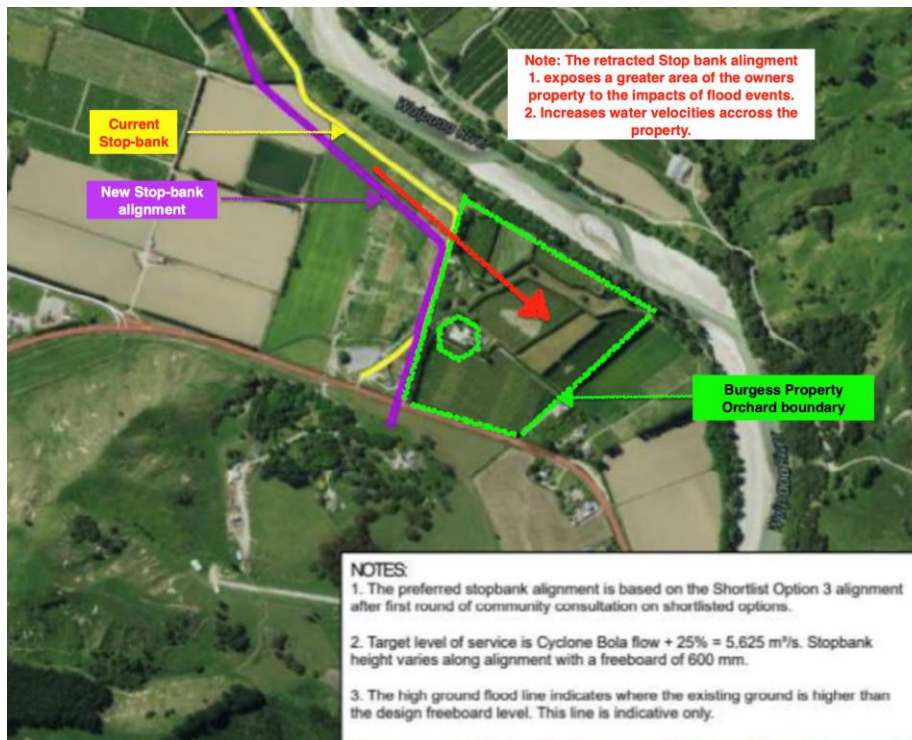
The Impacts:

26. The Trusts' property has recent experience of the impacts resulting from Cyclone Gabrielle event size. The flood modelling data available at present for the Burgess property gives mean flood levels and velocities rather than any actual levels and flows on specific crop blocks. (Table 3 of Mr Hooker's evidence at paragraph 10.26).
27. I am unclear whether the flood modelling includes the effect of raising Matawai Road.
28. In general terms, flood levels and flows will affect crops differently depending on:
 - The age and size of trees;
 - The species;
 - Root structure;
 - Timing in relation to fruit development.
29. In order to fully understand the impacts of the stop-bank relocation and the road raising, I would need to have information about the actual effects on the different parts of the orchard.

Water Velocities:

30. Table 2 shows that water velocity will increase through the Trusts' property. The **velocities will be greater** than those experienced during cyclone Gabrielle. In fact, the water velocities will be higher than at present for all modelled scenarios.
31. In addition the new stop-bank alignment and its retreat away from a proportion of the owners' property will expose the property to larger volumes of water moving at higher velocities. (Table 4) I am not a qualified hydrologist and have not assessed the flood modelling data for the Burgess orchard, but I can apply my experience of flood effects from previous storms to the likely outcomes where flood velocities have been modelled to significantly increase.
32. Kinetic energy is calculated as $KE = 0.5 \times \text{mass} \times \text{velocity}^2$. In simple terms, if water velocity doubles, the energy generated increases by a factor of four.
33. As a result of the new stop-bank design and increased water velocities the owners can expect:
- Greater Physical Damage:
 - Greater uprooting, toppling and breakage of trees.
 - Greater failure of infrastructure, including orchard fencing, shelter belts, roads, culverts and drains.
 - Greater debris and soil scouring and loss of productive top soil.
 - Siltation and Root Suffocation
 - Greater siltation in orchard areas further from the river course.
 - Longer periods of anaerobic soil conditions, leading to root death, root disease, poor tree health, loss of productivity and tree death.
 - Waipaoa river silts are high pH (alkaline >7+). This leads to essential micro elemental deficiencies (Fe, Mn, Zn, Cu, B, & P) that impact on tree health and productivity.
34. I understand that the Applicant has carried out flood modelling and that there are specific depths and velocities that can be determined for individual properties. However that information does not appear to be part of the evidence for the resource consent application.
35. The Burgess property is not flat and different crop blocks will be differently affected by the changes in flood depths and flood velocities according to their location within the orchard. Without that site-specific information it is very difficult to be any more specific about likely impacts on the crops.

Table 4: Retracted New Stop Bank Positioning. – Visual Understanding of Impacts on Owners' Property.



Future Investment & Business Uncertainty

36. With permanent tree crops, there is significant capital investment in tree stocks and setup. Crop yields accumulate over time. Maximum citrus production typically does not occur until trees are more than seven years old. A citrus orchard's break-even point and return on investment will occur much later, often after 12 years or more.
37. Any tree losses will take a considerable time to recover economically to pre-event yields and profitability. If individual trees are lost within blocks, the block can quickly become uneconomic.
38. Gapping up rarely works effectively because trees of different ages require different management inputs, increasing the production costs. The results of both the missing productive trees and the flood impacts on the remaining trees loss in crop yield and loss in fruit quality, is illustrated in the orchards production and income data . (Table 5)
39. The owners' orchard data shows a 38% loss in the average yields & income to those achieved pre cyclone Gabrielle. This needs to be addressed by new investment in tree-capital stocks. If not addressed, blocks will become uneconomic to farm. However the operator is now trapped in a declining cycle because the risk and cost of redevelopment cannot be justified when the available data indicates an increase in damage can be expected from the stop bank upgrade project under similar flooding events to those that have already occurred. As above, without site-specific flood data, I can only give general comments regarding likely impacts. However, the changes in flood exposure due to the stop-bank realignment signal a very likely adverse economic and physical effect on the property for a Cyclone Gabrielle intensity storm and potentially for any lesser storm that results in flood inundation.

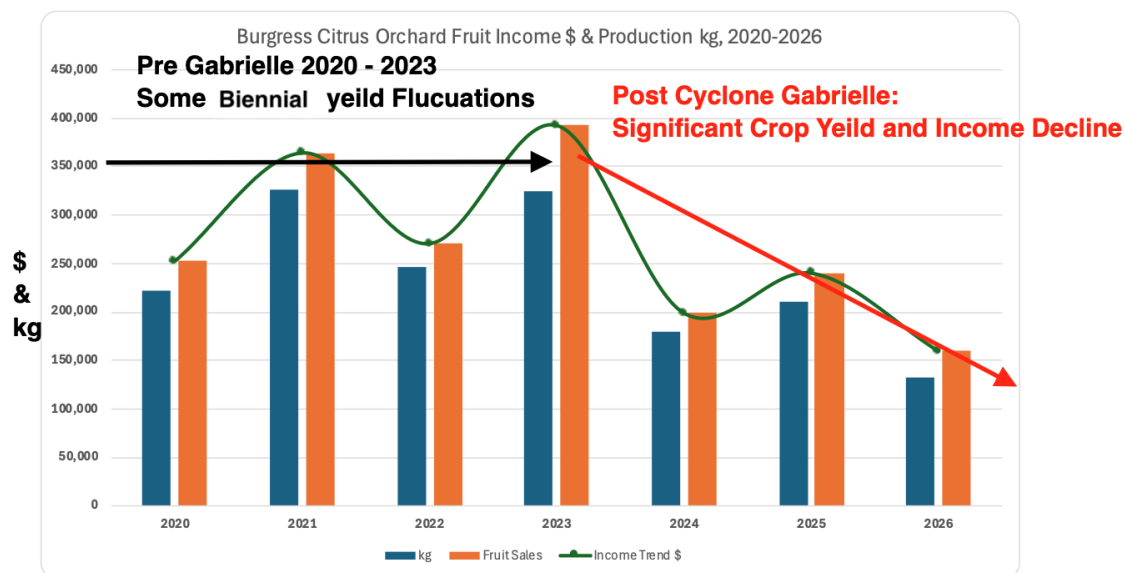
Table 5: Orchard Plantings, Production & Income Changes

M & W Burgess: Tree Schedule: Varieties, Age and Area

Block	Variety	Planted (Approx)	Tree Age in 2023	Pre Gabrielle	Post Gabrielle	Lost
				Area ha	Area ha	Area ha
Road	Grapefruit - Golden Sp	2001	23	0.45	0.45	
Road	Navel Orange (Barnfield)	2007	17	0.40	0.40	
Road	Satsuma - Miho	2000	24	0.23	0.23	
Road	Satsuma - Aoshima	2000	24	0.60	0.60	
Road	Grapefruit- Star Ruby	2016	8	0.47	0.47	
Road	Lemon - Meyer	2016	8	0.33	0.33	
Road	Limes	2000	24	0.05	0.05	
Middle	Satsuma - Miho	2000	24	1.31	1.09	0.22
Middle	Lemon Meyer	2004	20	0.69	0.00	0.69
Middle	Navel Orange (Parent)	2003	21	1.02	1.02	
River	Grapefruit - Cuttlers	2009	15	0.40	0.40	
River	Lemon Yen Ben	2022	2	0.17	0.17	
River	Lemon Yen Ben	2022	2	0.40	0.40	
River	Navel Orange (Barnfield)	2011	13	0.45	0.26	0.19
Total Planted Area				6.97	5.87	1.10
%				100%	84%	16%

Gross Yields and Net Income Received from Citrus Sales

Year	kg	Fruit Sales	Av \$/kg
2020	222,651	\$252,578	\$1.134
2021	326,139	\$364,236	\$1.117
2022	246,714	\$270,668	\$1.097
2023	324,427	\$392,581	\$1.210
2024	179,127	\$198,900	\$1.110
2025	210,165	\$240,074	\$1.142
2026	132,381	\$159,593	\$1.206
Av Pre Gabrielle	279,983	320,016	1.140
Av Post Gabrielle	173,891	199,522	1.153
Change	-38%	-38%	1%



Conclusion:

40. The new stop bank project significantly changes the risk profile for the owners' property, its future viability, and its value as commercial orchard operation and business.
41. Further consideration and consultation should occur with the owners as a direct result of the Stop-bank Project, and its impacts on their property their business and their future.
42. With the changed stop-bank alignment and increased exposure to flood flows, the future land use of this site may need to change away from permanent cropping.
43. The Trusts' property will become more suited to annual crops, stock grazing or retired to be part of the overall Flood Protection Project.

Scott Wilson

