

Appendix C3 Waikato Region Fire Returns 1991/92 to 2006/07

Number of Fires (Figure W1):

- From 1991/92 to 2006/07 Waikato had on average 316 wildfires annually or around 10% of the total national annual number of fires.
- The number of wildfires in Waikato varied between 93 fires (9% of national) in 1992/93 and 537 fires (22% of national) in 1994/95.
- The total number of fires for Waikato did not significantly increase or decrease over time (Linear regression: $R^2 = 0.091$; F-value = 1.4; P-value = 0.256). Waikato's number of fires did not significantly correlate with the increasing trend over time seen nationally as a whole (correlation coefficient = 0.463; P-value = 0.071).

Area Burned (Figure W2):

- The average annual total area burned for Waikato (1991/92 to 2006/07) was 64 ha (around 1% of the national).
- Total area burned varied from just 13 ha (0.2% of national) in 2003/04 to 178 ha (4% of national) in 2005/06.
- The total area burned for Waikato shows no statistically significant trend (linear regression: $R^2 = 0.0979$; F-value = 1.52; P-value = 0.238).

Number of Fires by Cause (Figures W3 and W4):

- On average 31% (average annually of 96 fires) of the Waikato were attributed to vehicles.
- Land clearing made up, on average, 14% (45 on average annually) of the number of fires.
- Around 28% of fires on average were attributed to miscellaneous causes (average annually of 87 fires); around 20% of fires were listed in the unknown (annual average around 65 fires); combined 'non-specified' (unknown and miscellaneous) Waikato fires were 48%.
- Considerable variation is seen over time in the number of fires attributed to miscellaneous and unknown

Area Burned by Fuel Type (Figures W5 and W6):

- Over 60% of the total area burned for Waikato, was scrub; Waikato had an average total annual scrub area burned of 39 ha (2% of national).
- Around 25% of the total area burned for Waikato was grassland; average annual total grass area burned for Waikato was 23 ha (about 2% of national).
- Of the total area burned for Waikato, 4% was forest; average annual total forest area burned for Waikato was 2 ha (0.6% of national).
- Most of the forest area burned for the study period (around 30 ha) occurred in 2002/03.

Area Burned by Cause (Figures W7 and W8):

- While land clearing made up, on average, only 14% of the number of fires, land clearing accounted for 41% of the average total area burned.
- Around 20% (12 ha) of the average annual total area burned was attributed to unknown causes; 17% (11 ha) of the average annual total area burned was attributed to miscellaneous; combined unspecified average annual total area burned was 37%.
- However, the annual total area burned for Waikato was small compared to other regions. The largest total area burned was just under 180ha in 2005/06.

Area Burned by Cause and Fuel Type (Figures W9 and W10):

- Around 55% of the average annual total grass area burned was attributed to land clearing (annual average of 12 ha).
- The large proportion of average grass area burned was due to two relatively large grass area burned due to land clearing in 2005/06 and 2006/07.
- Miscellaneous accounted for around 13% of the average annual grass area burned (annual average of around 3 ha); unknown was 14% (annual average of 3 ha); combined unspecified 26%.
- Vehicle fires accounted for another 13% (annual average of 3 ha) of the average annual total grass area burned 1991/92 to 2006/07.
- On average 30% (annual actual average 12ha) of Waikato scrub area burned was attributed to land clearing.
- Around 25% of the average annual total scrub area burned was due to unknown causes (annual actual average was around 9 ha); 20% was attributed to miscellaneous causes (actual average 8 ha); combined 'non-specified' 45%.
- Unlike many other regions, recreational causes accounted for 13% (actual per year average 5ha) of the average annual total scrub area burned.
- The causes of the annual total scrub area burned in Waikato varied considerably from year to year, and trends in individual causes were difficult to assess.
- The average total forest area burned by cause illustrates the importance individual years, 92% of the average annual total forest area burned was attributed to land clearing (actual just 2ha).

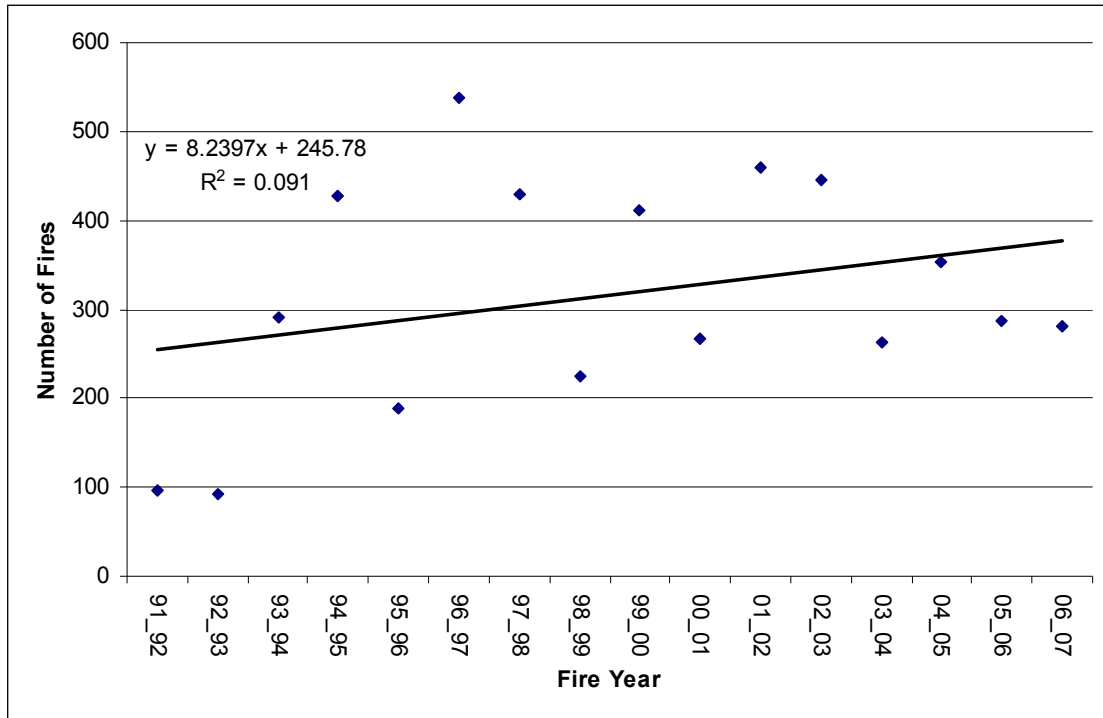


Figure W1. Waikato total number of fires from 1991/92 to 2006/07.

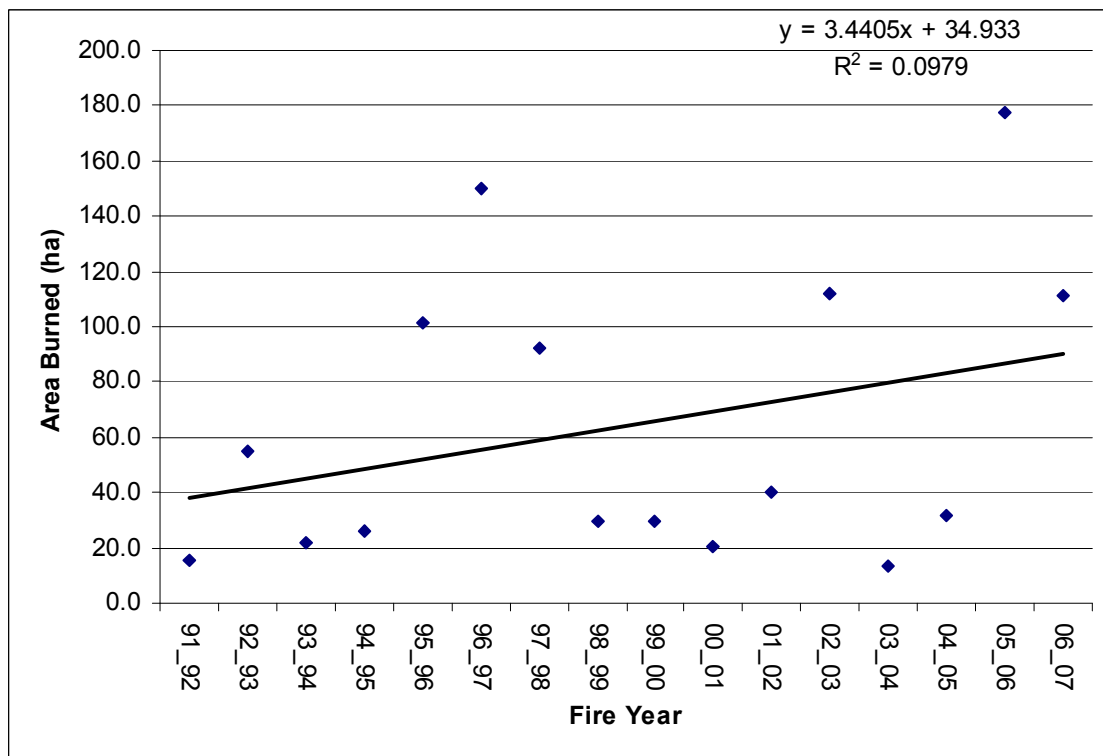


Figure W2. Waikato total area burned from 1991/92 to 2006/07.

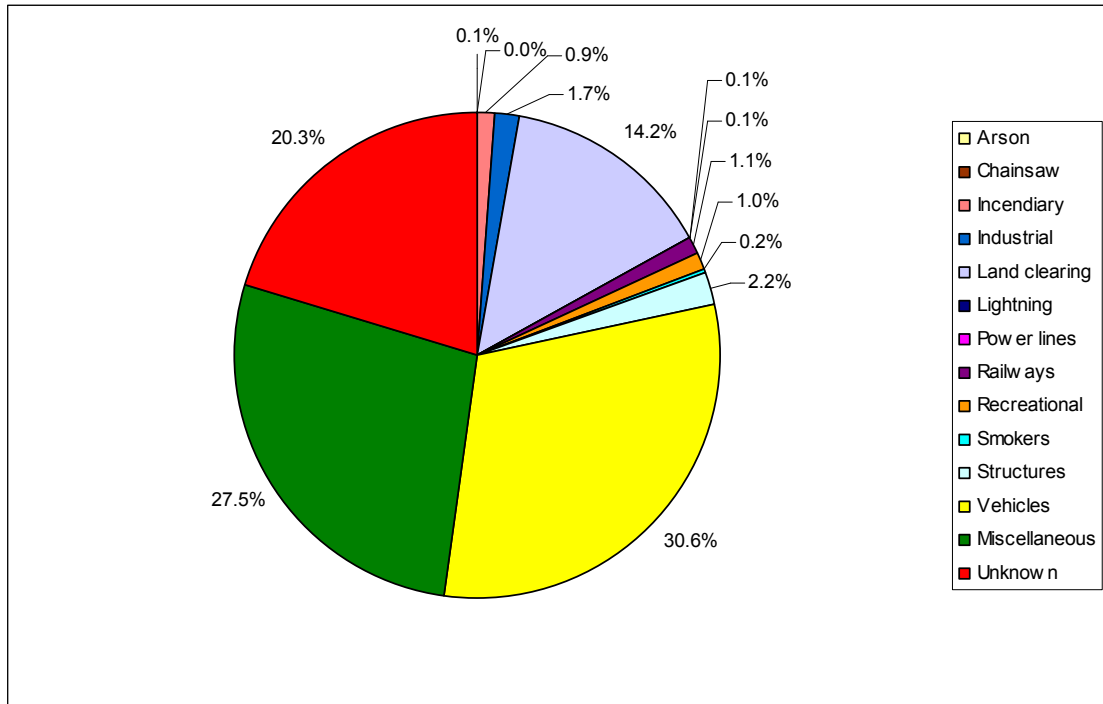


Figure W3. Waikato annual average total number of fires by cause from 1991/92 to 2006/07.

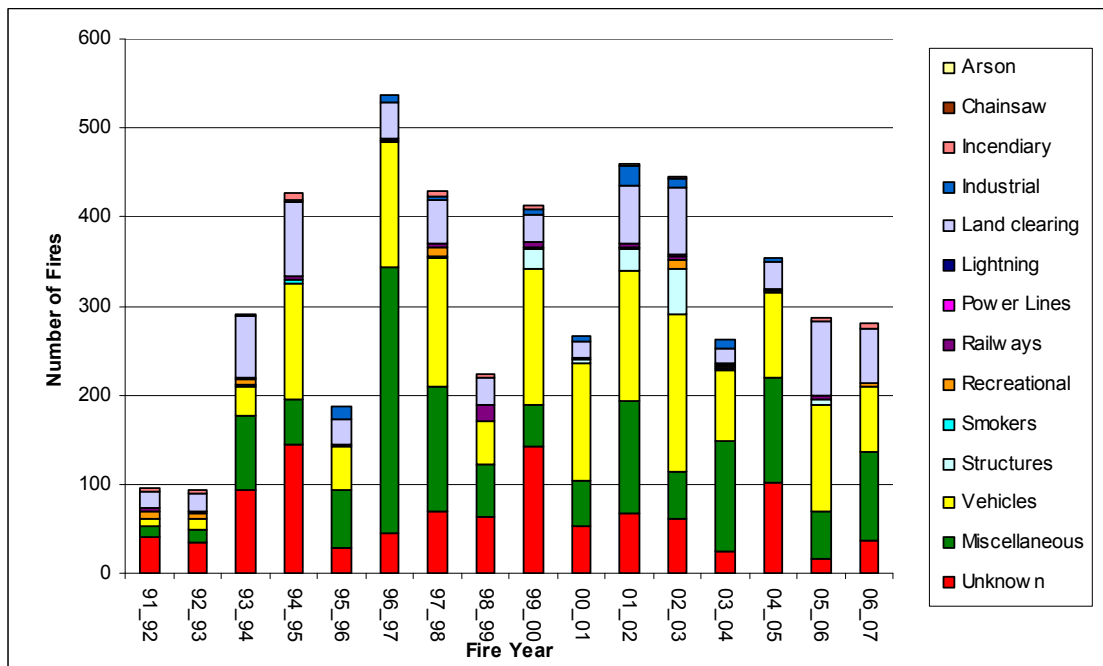


Figure W4. Waikato total number of fires by cause from 1991/92 to 2006/07.

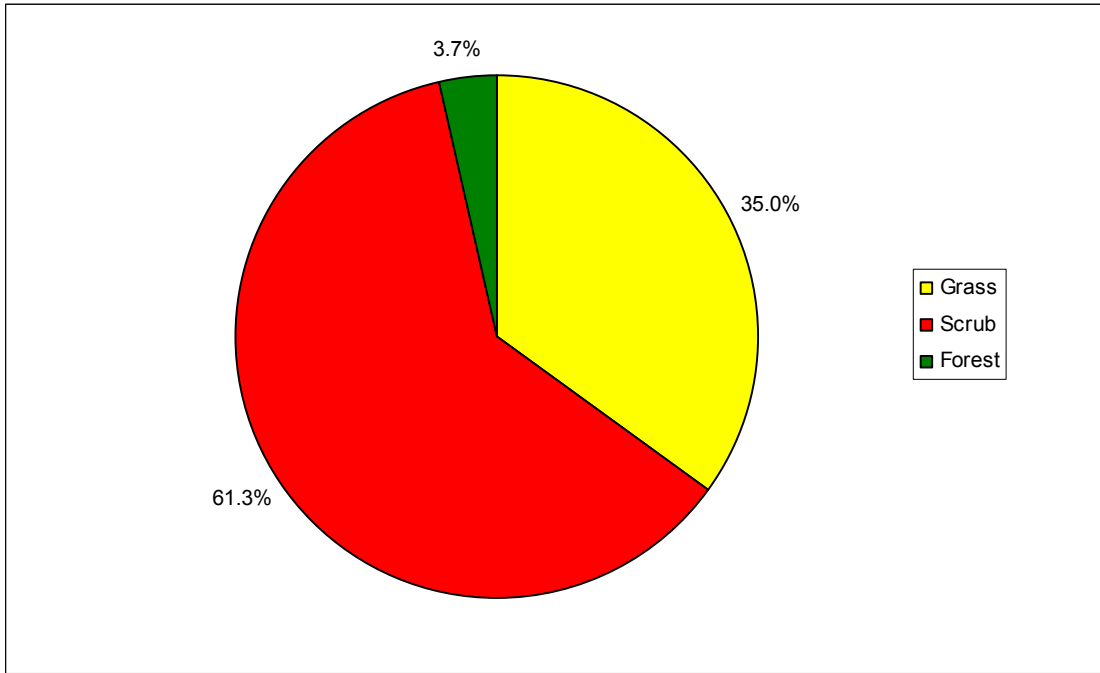


Figure W5. Waikato total area burned by fuel type from 1991/92 to 2006/07.

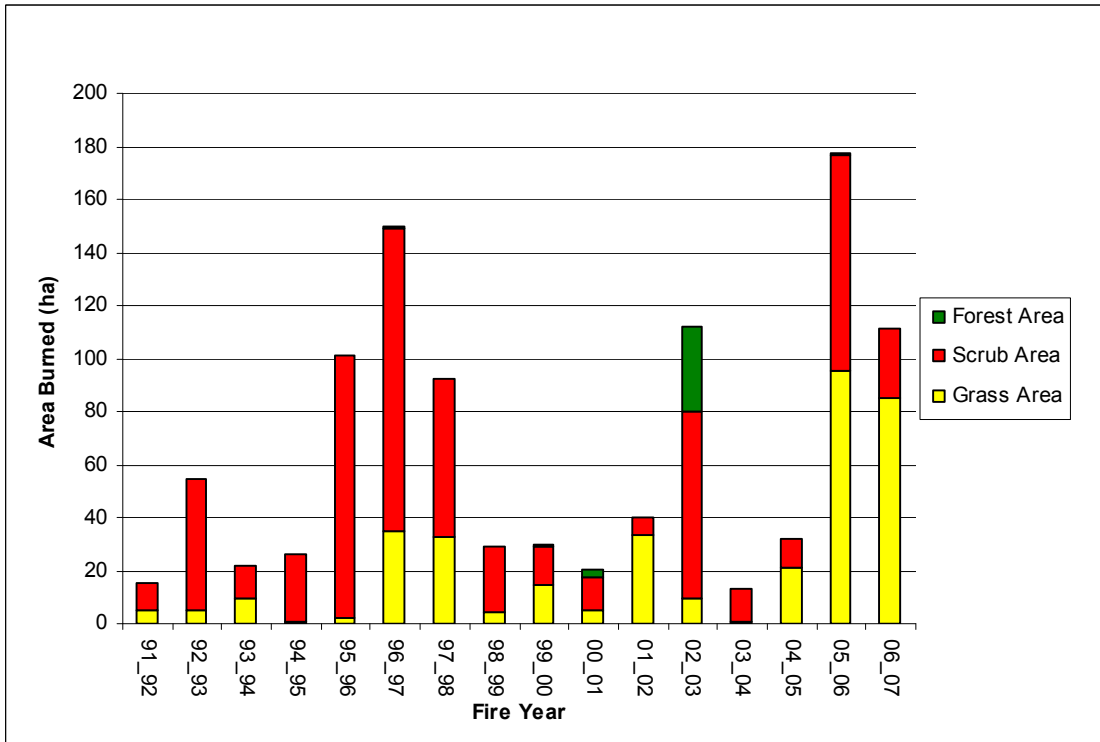


Figure W6. Waikato total area burned by fuel type from 1991/92 to 2006/07.

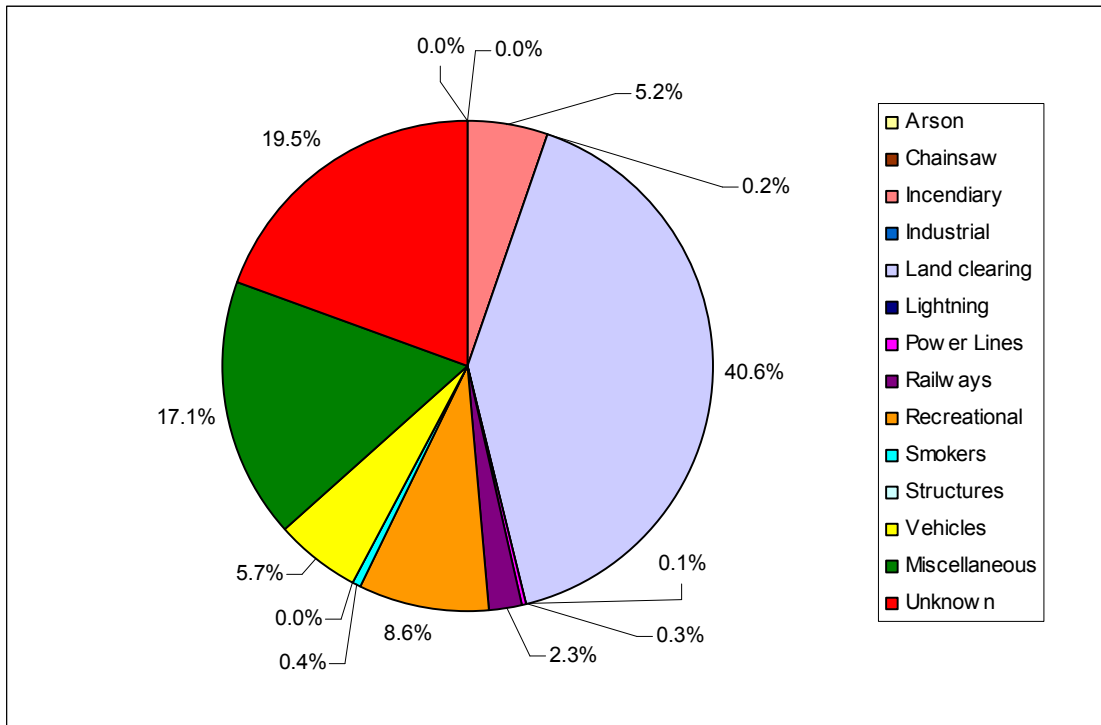


Figure W7. Waikato average annual total area burned by cause from 1991/92 to 2006/07.

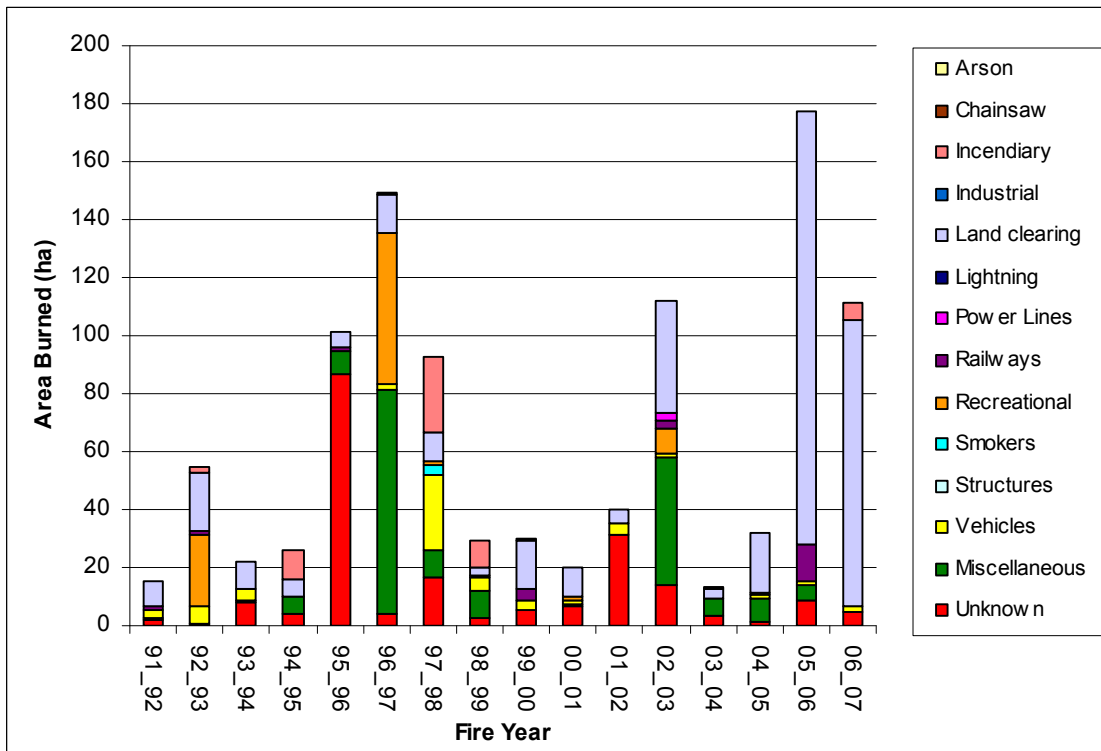


Figure W8. Waikato total area burned by cause from 1991/92 to 2006/07.

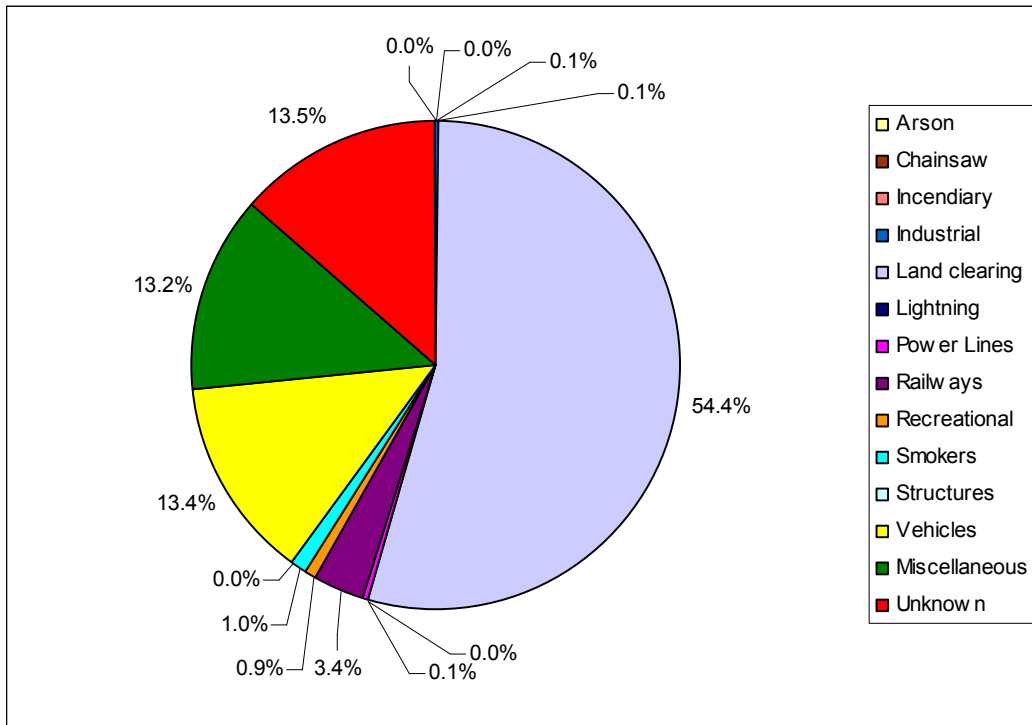


Figure W9. Waikato average annual grass area burned by cause from 1991/92 to 2006/07.

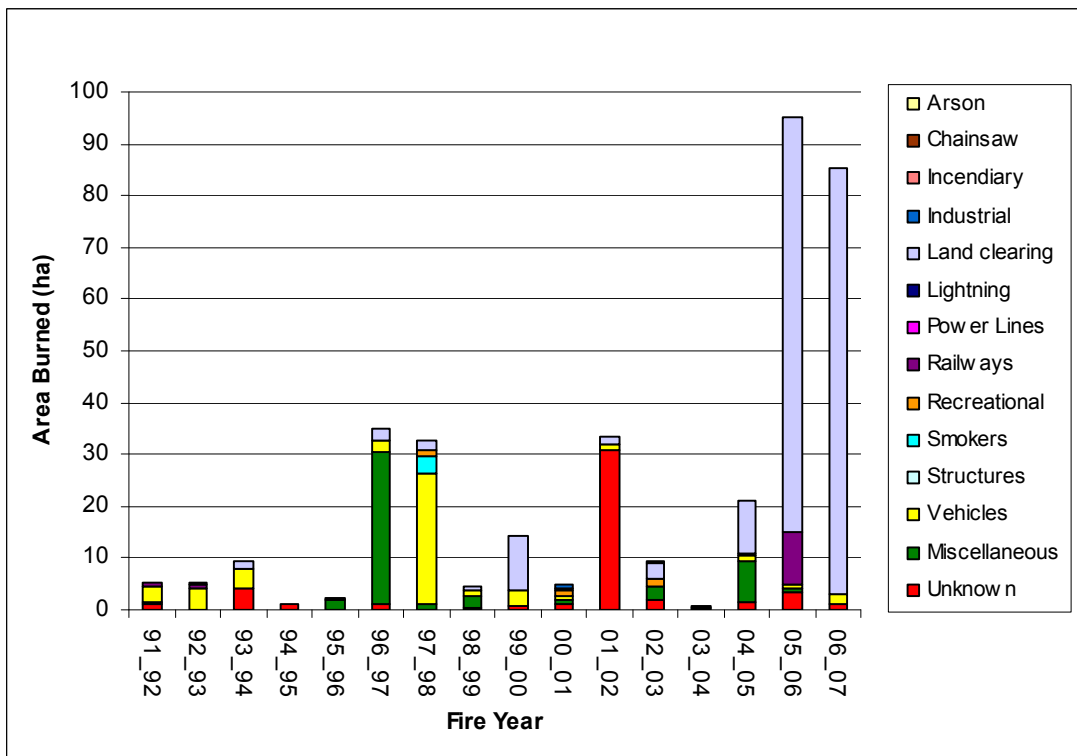


Figure W10. Waikato total grass area burned by cause from 1991/92 to 2006/07.

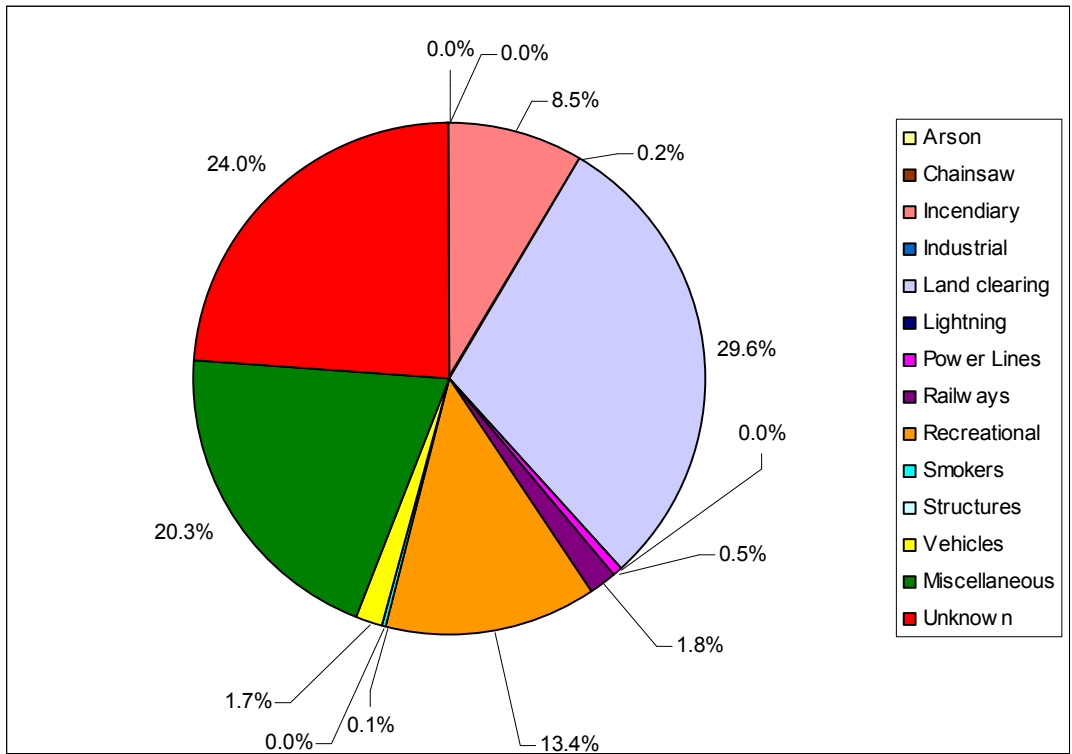


Figure W11. Waikato average annual total scrub area burned by cause from 1991/92 to 2006/07.

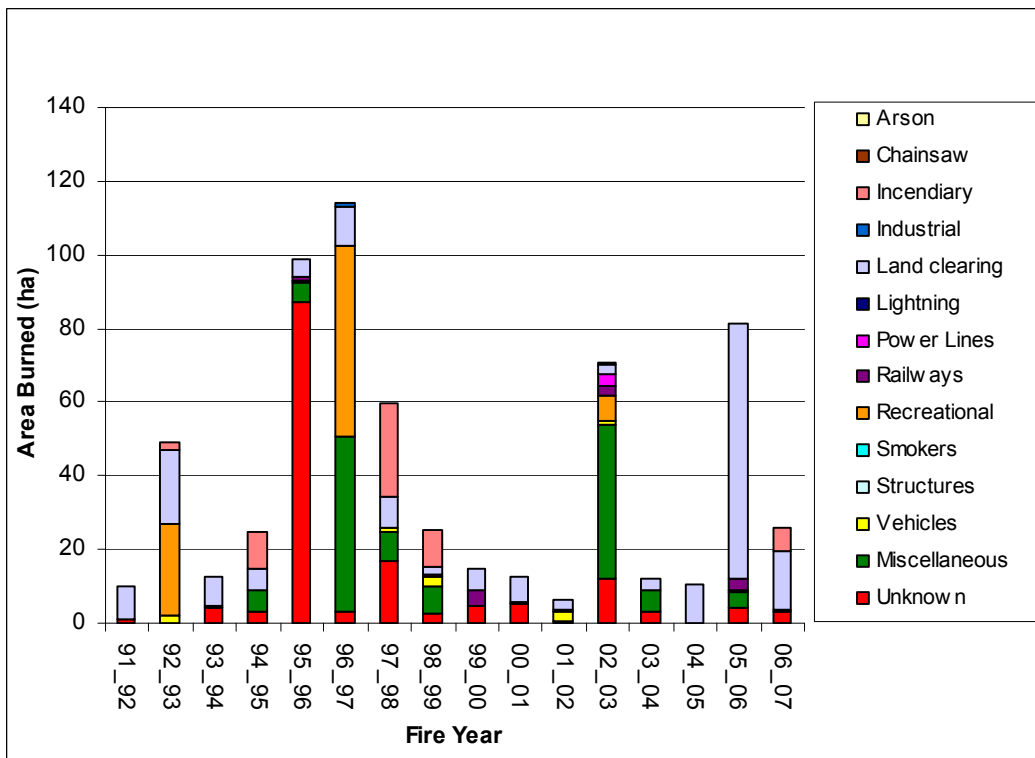


Figure W12. Waikato total scrub area burned by cause from 1991/92 to 2006/07.

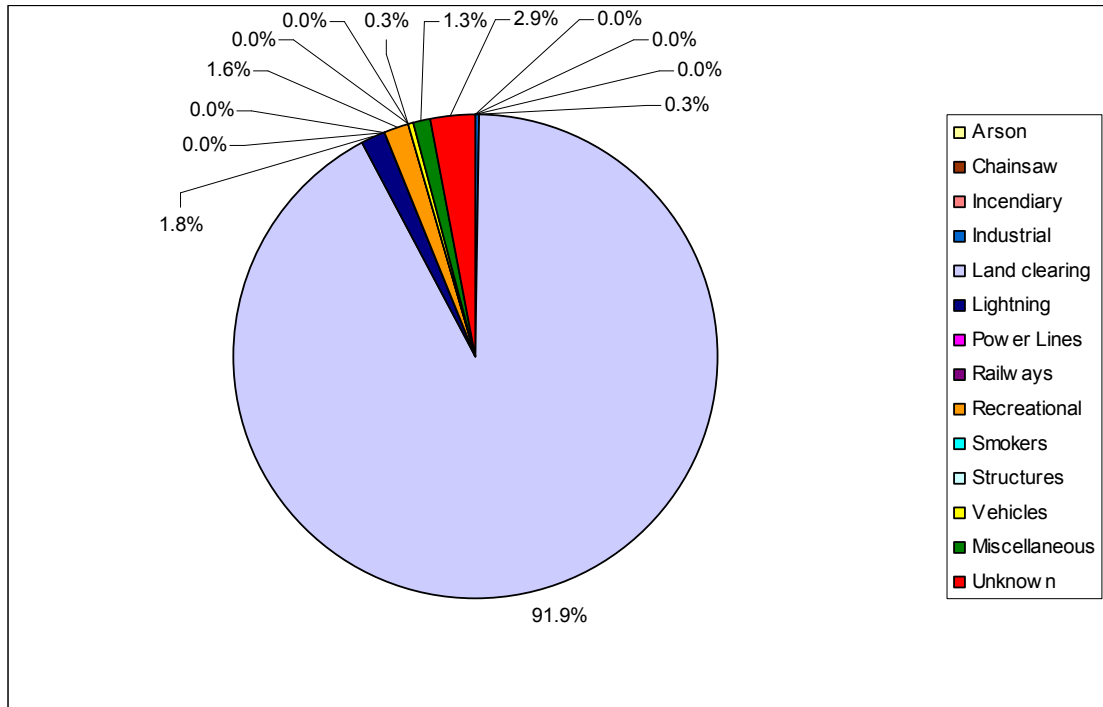


Figure W13. Waikato average total forest area burned by cause from 1991/92 to 2006/07.

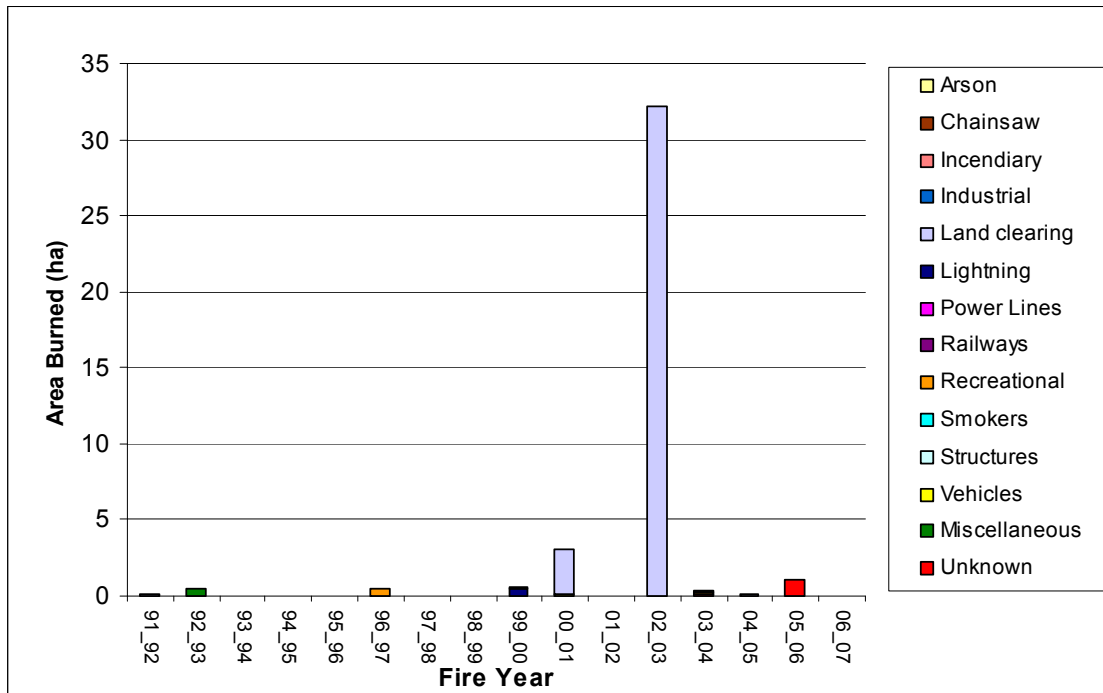


Figure W14. Waikato total forest area burned by cause from 1991/92 to 2006/07.