

Appendix C9 Nelson/Marlborough Region Fire Returns 1991/92 to 2006/07

Number of Fires (Figure NM1):

- Nelson/Marlborough had on average about 131 fires annually between 1991/92 and 2006/07 (or 4% of the national average total number of fires).
- The total annual number of fires varied from just 55 fires (3% of annual national total) in 1995/96 to 299 fires (6% of the annual national total) in 2004/05.
- The total number of fires for Nelson/Marlborough significantly increased over time (regression: $R^2 = 0.5955$; F-value = 20.61; P-value = <0.001). This correlated with the increasing national trend (correlation coefficient = 0.812; P-value = <0.001).

Area Burned (Figure NM2):

- The average annual total area burned for Nelson/Marlborough was 722 ha (around 10% of the national total area burned).
- The annual total area burned varied from just 93 ha (2% of that years annual total) in 1995/96 to 7,232ha (70% of that years' annual total) in 2000/01.
- The total area burned showed no statistically significant positive or negative trend over time (regression: $R^2 = 0.0038$; F-value = 0.05; P-value = 0.88).

Number of Fires by Cause (Figures NM3 and NM4):

- Miscellaneous causes accounted for about 25% of the average annual total number of fires (annual average of 31 fires); unknown accounted for about 7% (annual average of 9 fires) of the average annual total number of fires.
- Around 24% of the average annual total number of fires were attributed to land clearing (annual average of about 30 fires); around 12% were classed as vehicle fires (annual average of about 15 fires).
- Over the study period the number of land clearing fires appeared to be increasing.

Area Burned by Fuel type (Figures NM5 and NM6):

- Around 68% of the total area burned was grass; average annual total grass area burned was 491 ha.
- Around 20% of the total area burned was scrub; average annual total scrub area burned was 148 ha.
- The remaining 12% of total area burned was forest; average annual total forest area burned was about 83 ha.
- The total area burned from 1991/92 to 2006/07 was dominated by the Blenheim fires in 2000/01; with 6,000ha of grass, over 400ha of scrub and just under 300ha of forest for that fire year.

Area Burned by Cause (Figures NM7 and NM8):

- The average total annual area burned by cause was dominated by the 2000/01 fire year and the Blenheim fires, with nearly 60% of the average annual total area burned being attributed to unknown causes.
- Around 12% of the average total annual area burned was attributed to land clearing; annual average of 90 ha.
- Miscellaneous causes made up about 10% with an annual average of about 70 ha.

Area Burned by Cause by Fuel type (Figures NM9, NM10, NM11, NM12, NM13 and NM14):

- As with the total area burned, the average annual total grass area burned was dominated by unknown causes (80%) mostly due to the 2000/01 fires. The total grass area burned in other years was much lower at about 300 ha compared to over 6,000 ha.
- By contrast, the average annual total scrub area burned was made up of about 42% land clearing (annual average 62 ha); 22% (annual average 33 ha) vehicles; 10% (14 ha) miscellaneous; and 9% (13 ha) unknown.
- For most years, land clearing was the largest contributor to the annual total scrub area burned (1991/92, 1992/93, 1993/94, 1994/95, 1998/99, 1999/2000, 2001/02 and 2004/05).
- Relatively high levels of scrub area were burned in 1992/93 (predominantly land clearing and vehicles) and 2000/01 (predominantly vehicles).
- The annual total forest area burned was dominated by miscellaneous causes (about 56% or annual average of 46 ha); this primarily is a result of three fire years: in 1992/93 (66ha miscellaneous burned), 2005/06 (133 ha), and 1997/98 (525 ha burned).

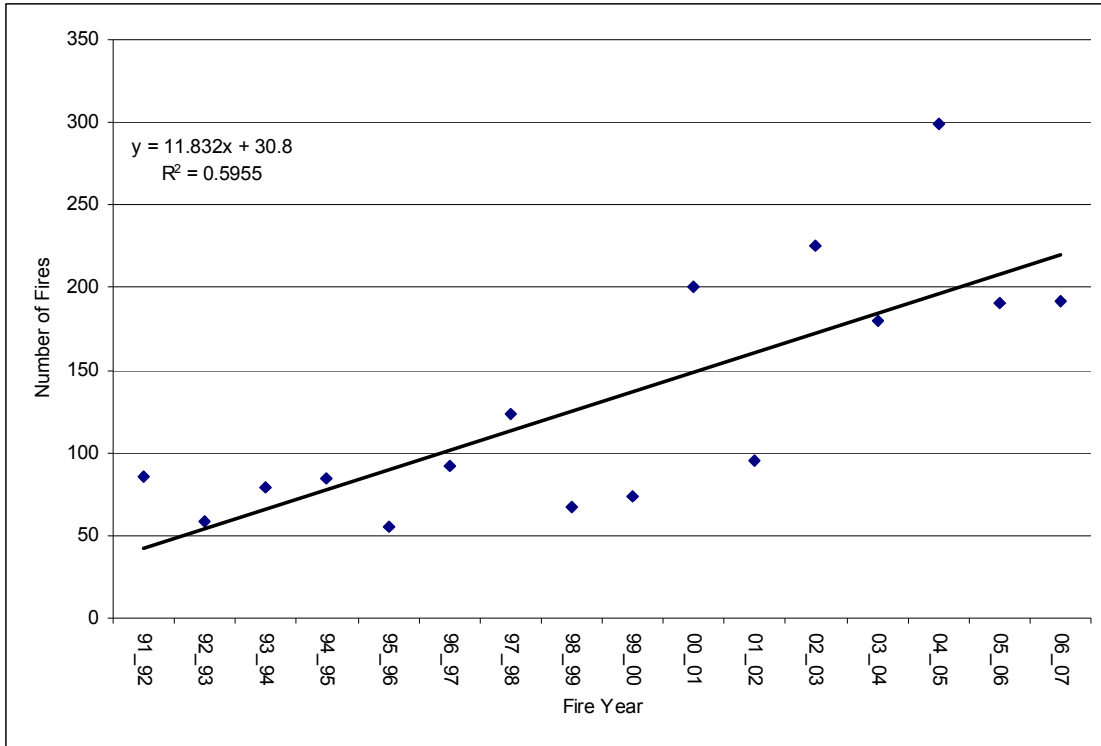


Figure NM1. Nelson/Marlborough total annual number of fires from 1991/92 to 2006/07.

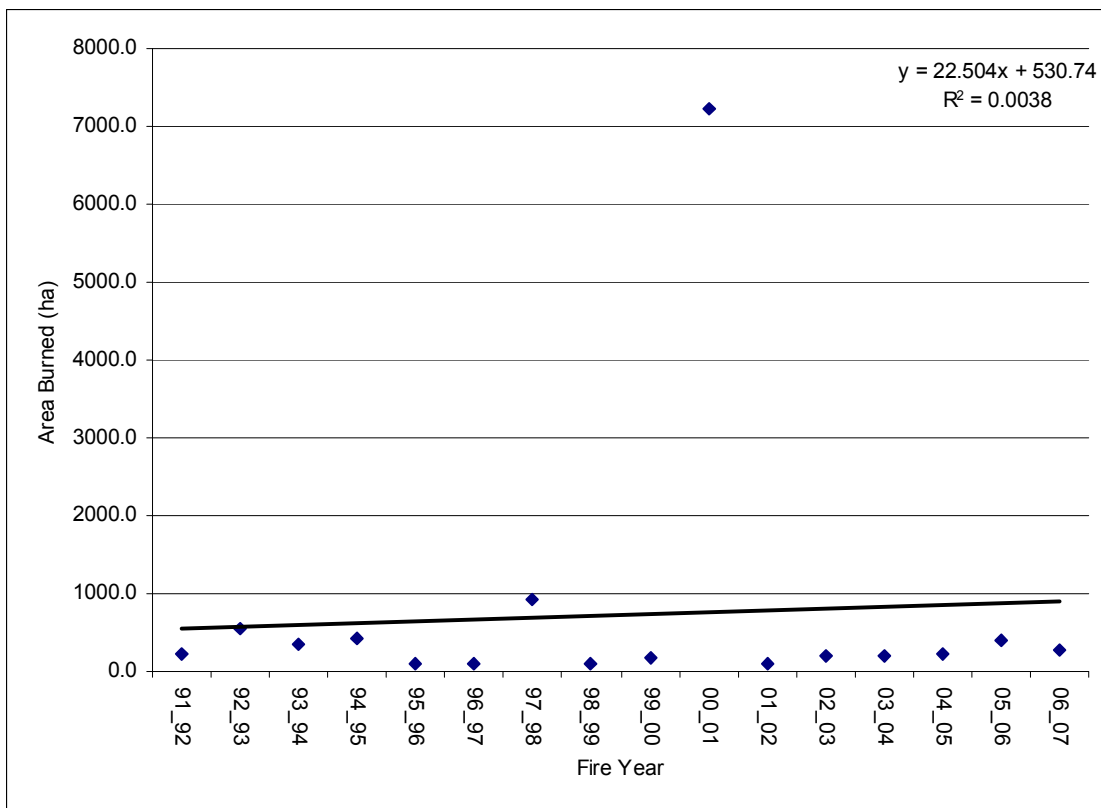


Figure NM2. Nelson/Marlborough total annual area burned from 1991/92 to 2006/07.

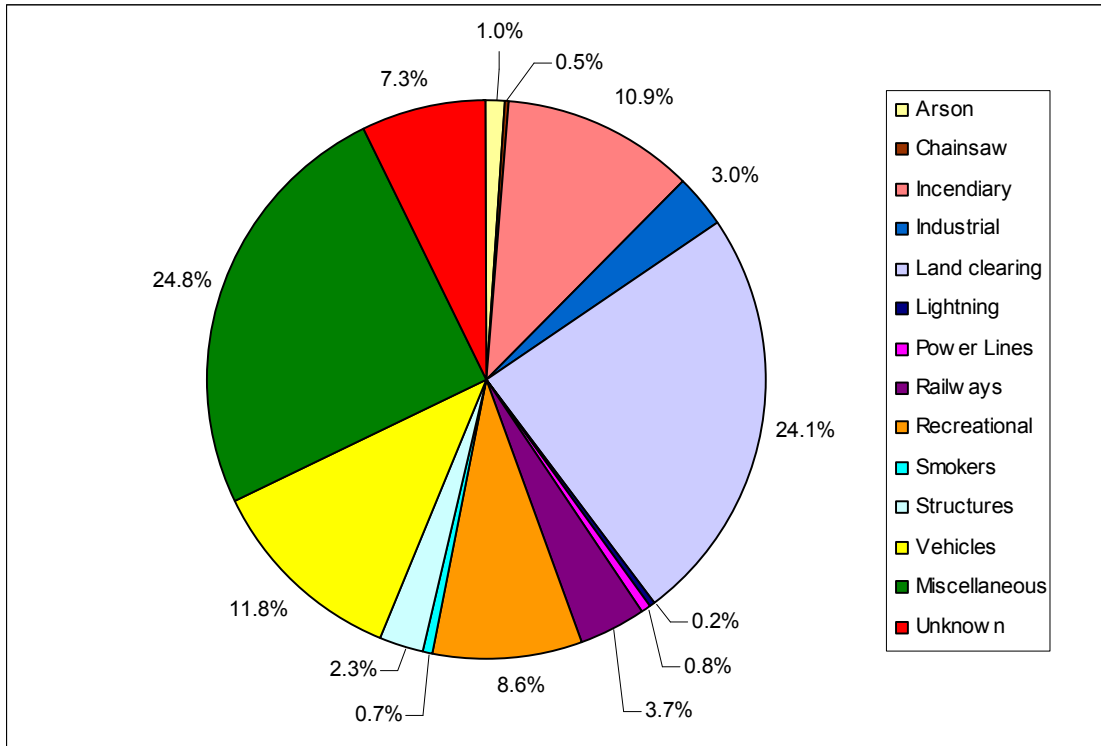


Figure NM3. Nelson/Marlborough total number of fires by cause from 1991/92 to 2006/07.

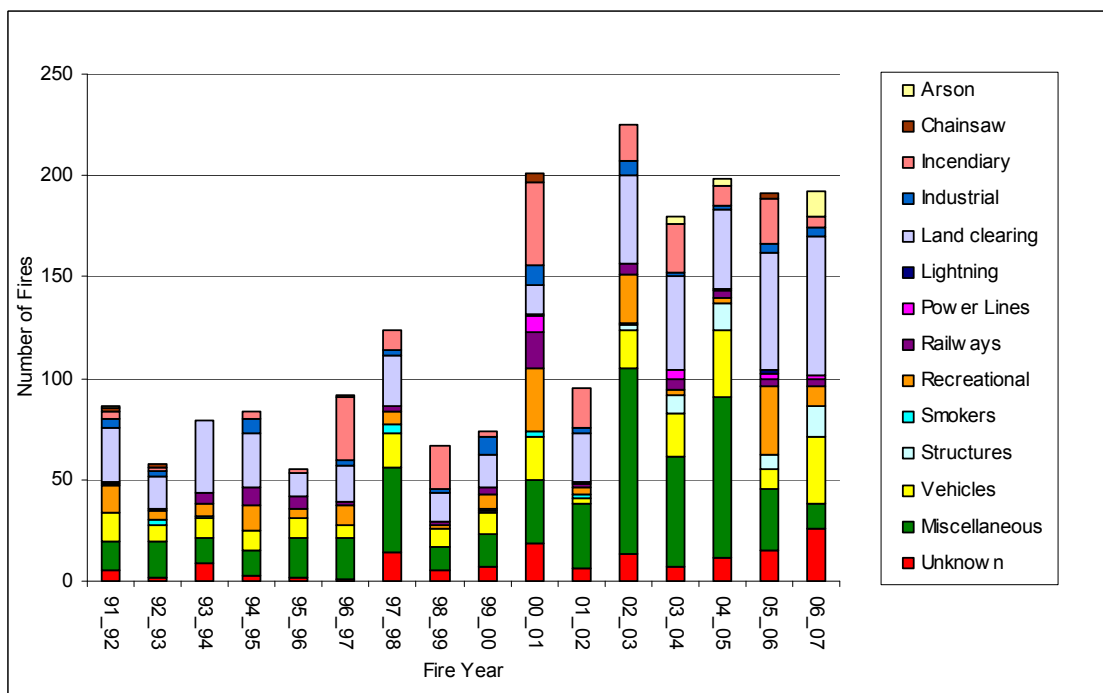


Figure NM4. Nelson/Marlborough total number of fires by cause from 1991/92 to 2006/07.

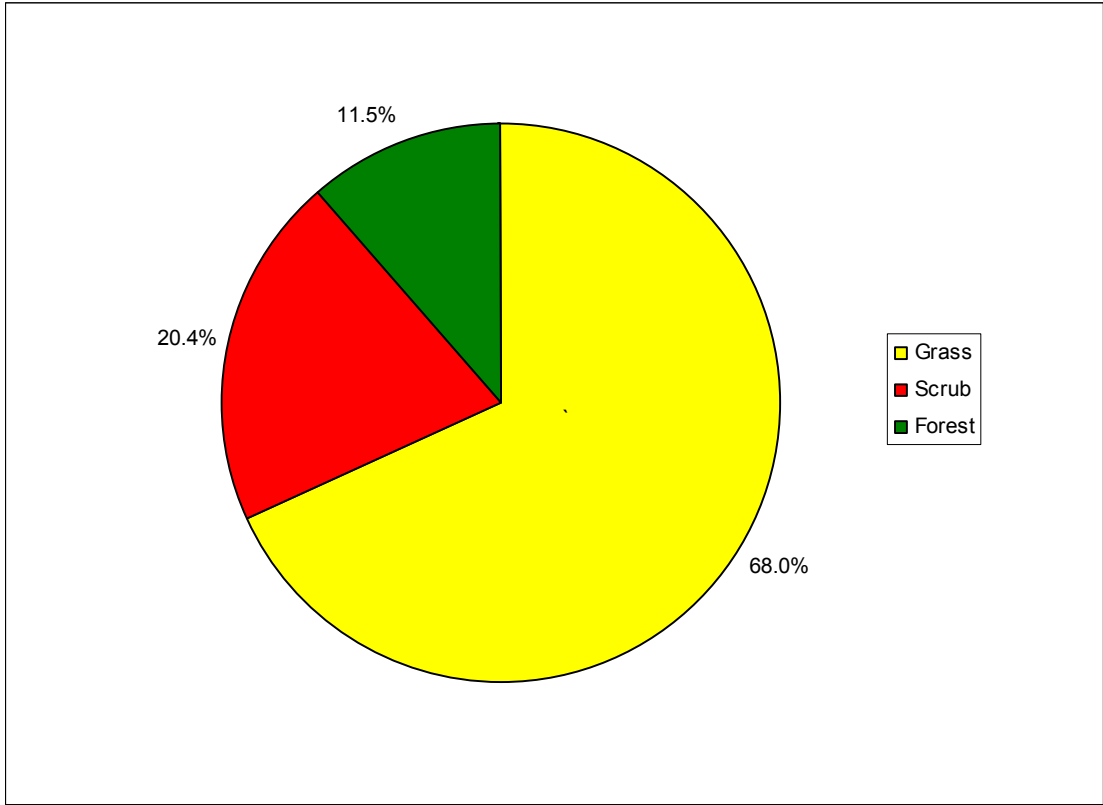


Figure NM5. Nelson/Marlborough total area burned by fuel type from 1991/92 to 2006/07.

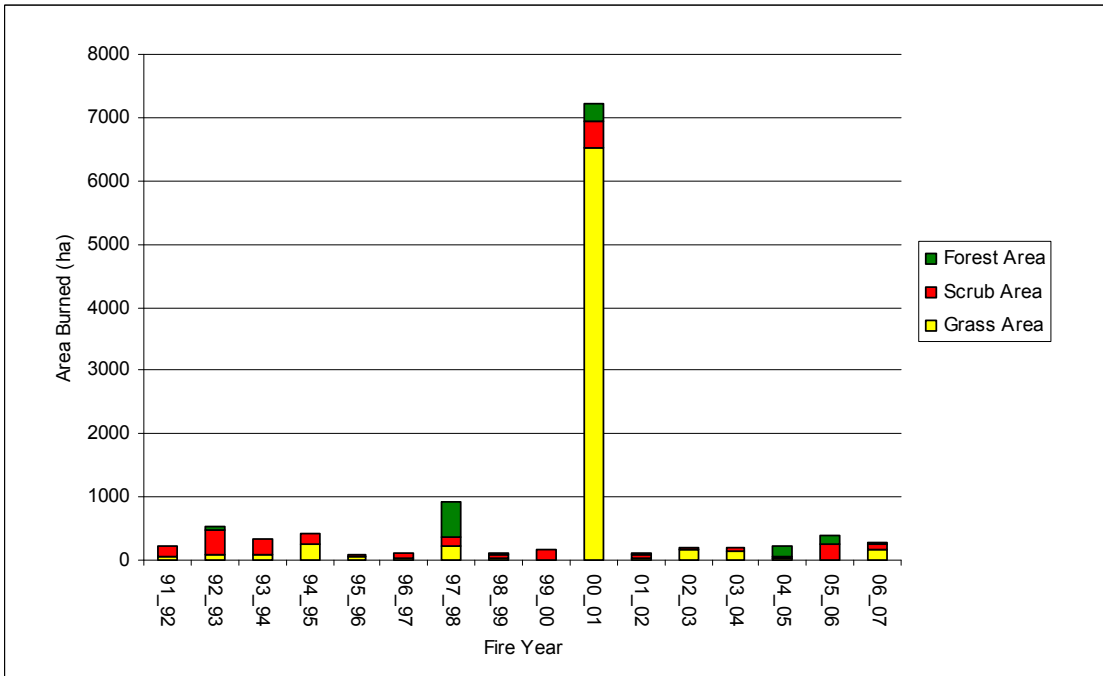


Figure NM6. Nelson/Marlborough total area burned by fuel type from 1991/92 to 2006/07.

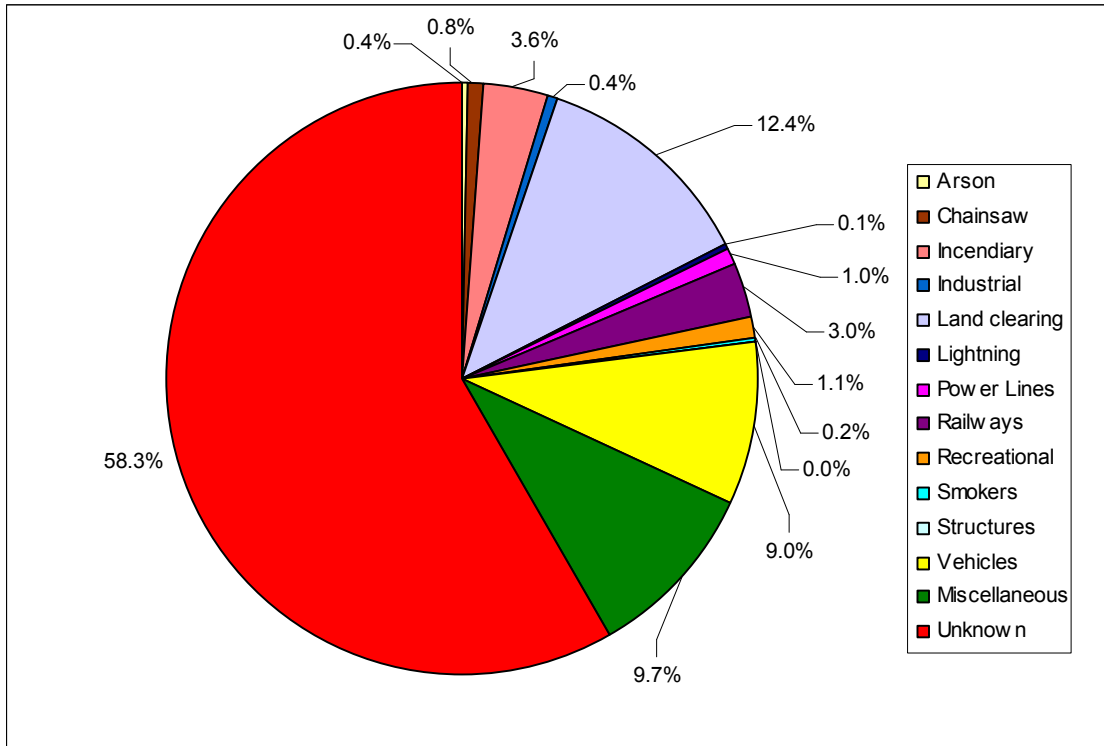


Figure NM7. Nelson/Marlborough total area burned by cause from 1991/92 to 2006/07.

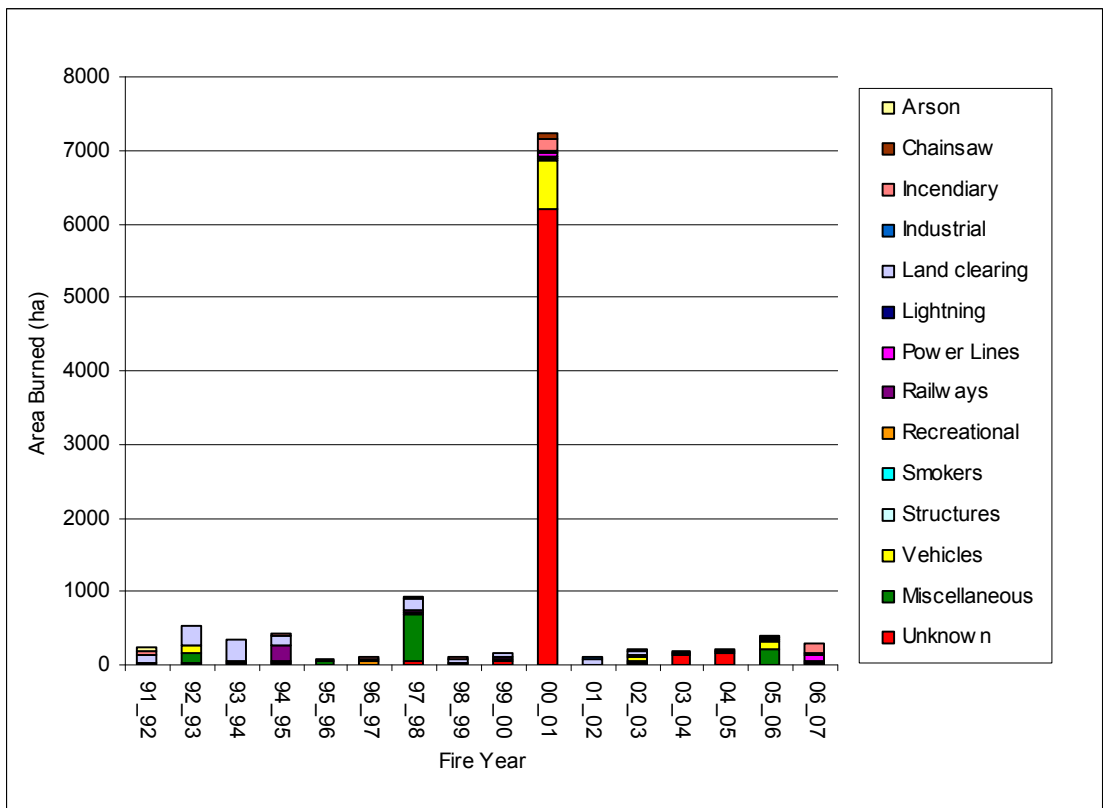


Figure NM8. Nelson/Marlborough total area burned by cause from 1991/92 to 2006/07.

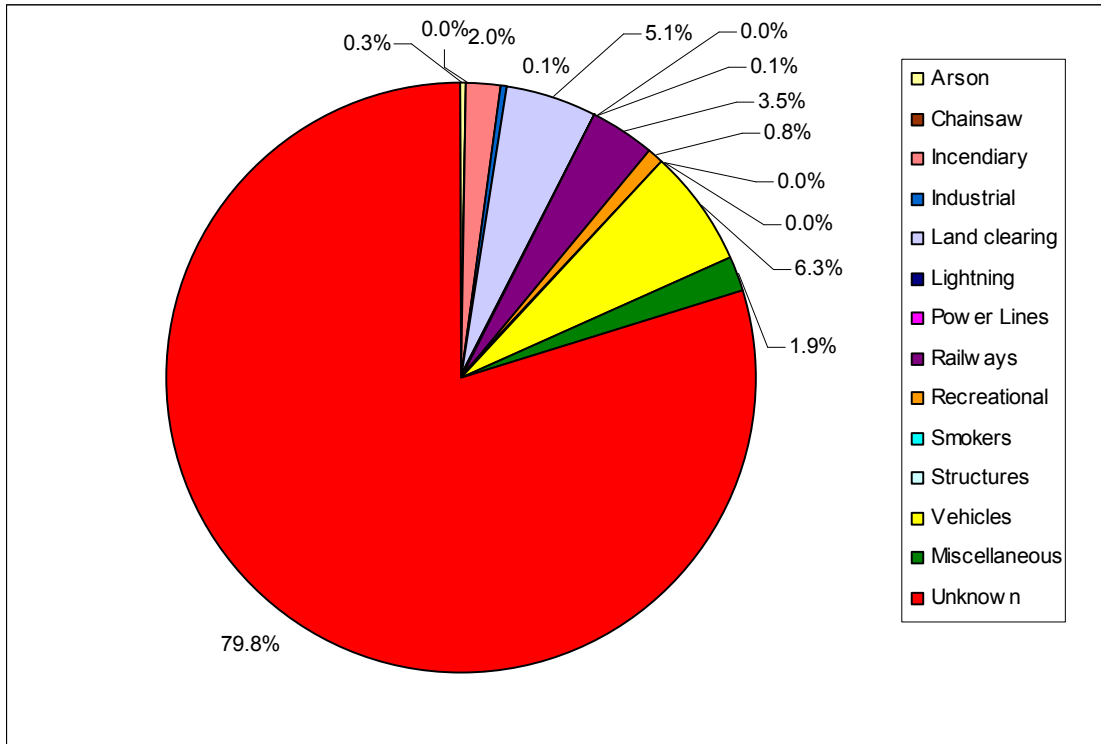


Figure NM9. Nelson/Marlborough Average Total Annual Grass Area Burned from 1991/92 to 2006/07.

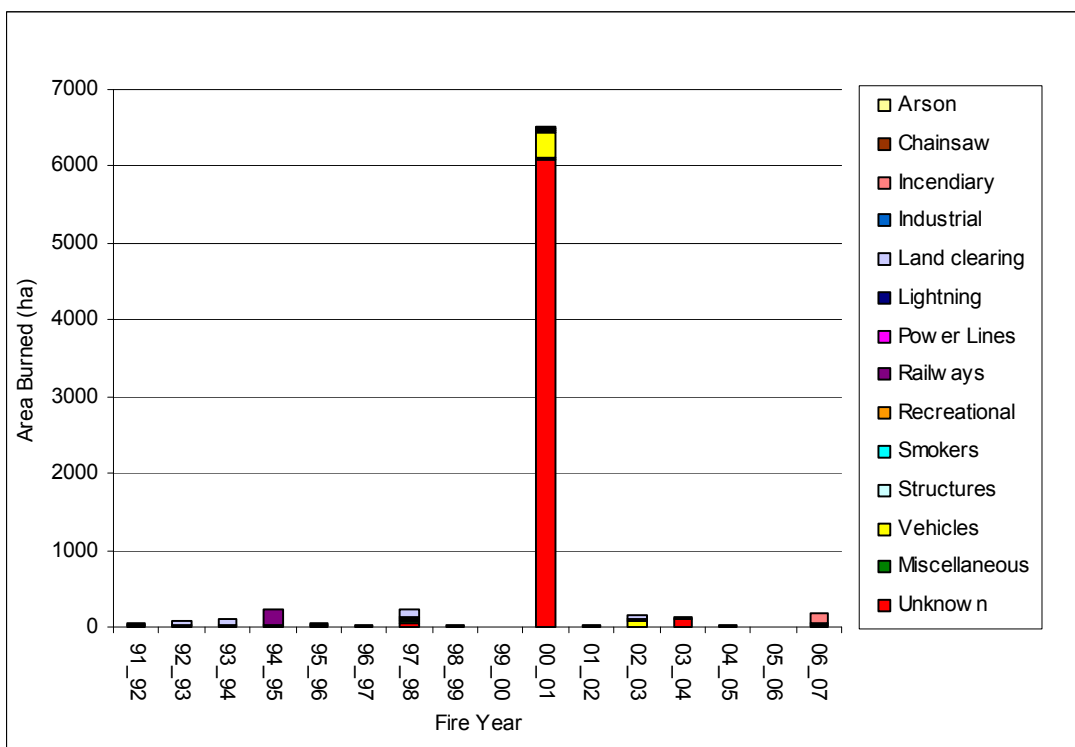


Figure NM10. Nelson/Marlborough Total Grass Area Burned by Cause from 1991/92 to 2006/07.

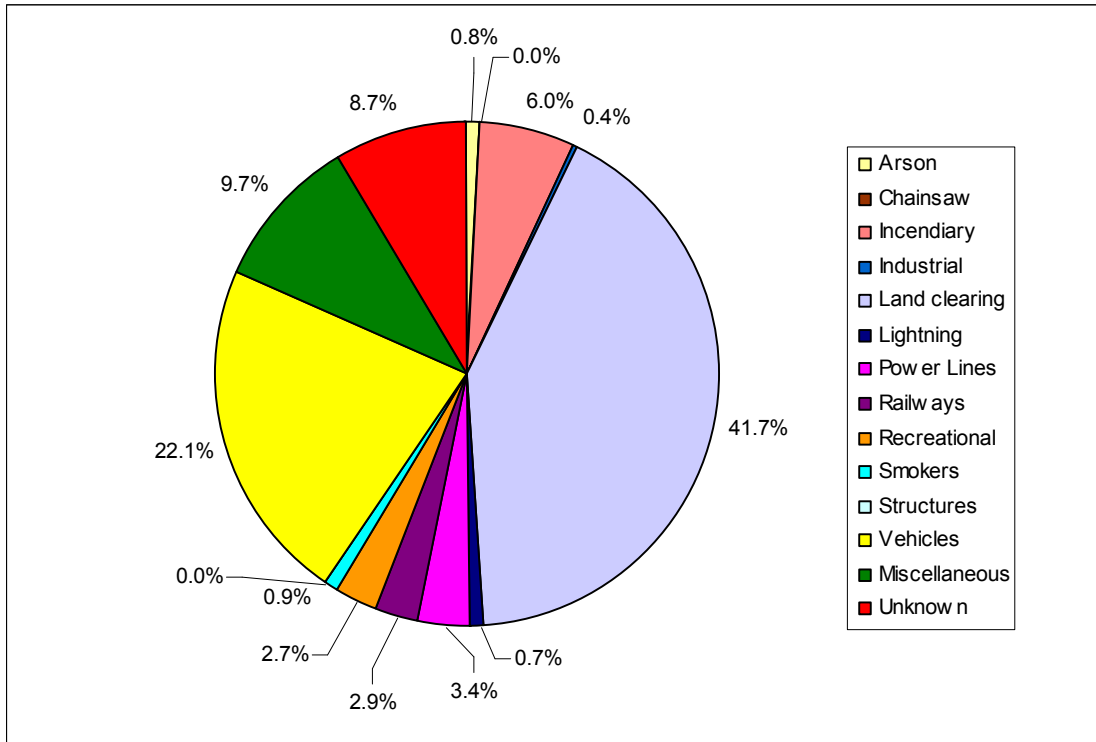


Figure NM11. Nelson/Marlborough average total scrub area burned by cause from 1991/92 to 2006/07.

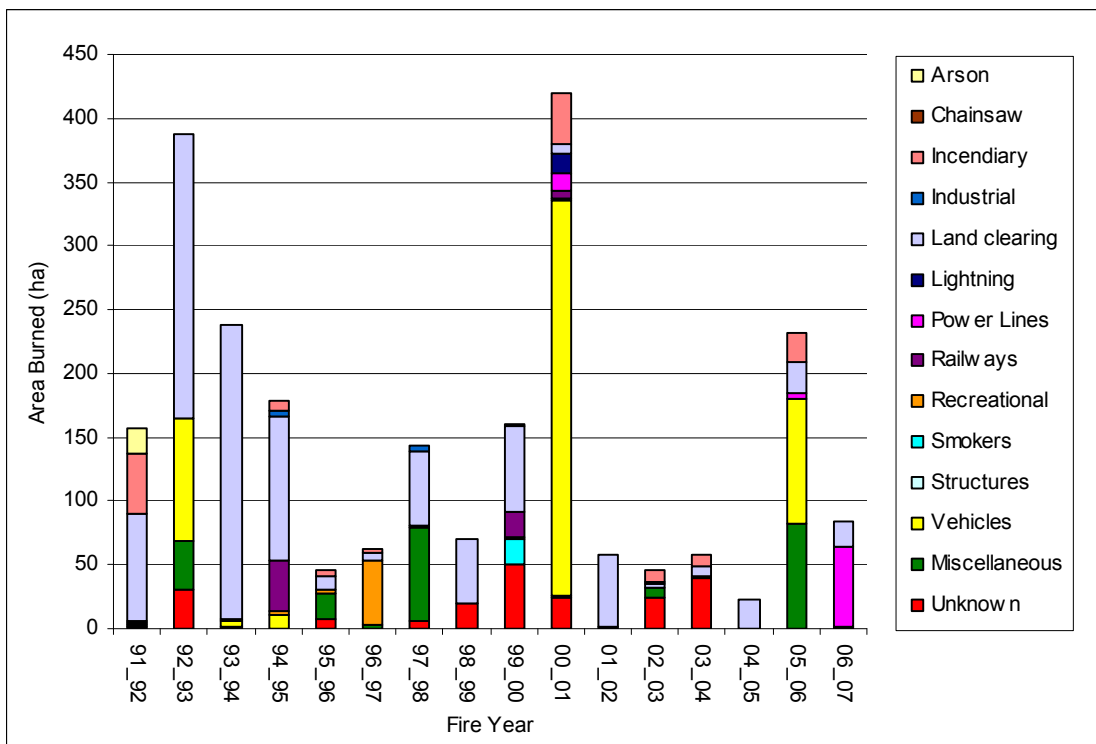


Figure NM12. Nelson/Marlborough total scrub area burned by cause from 1991/92 to 2006/07.

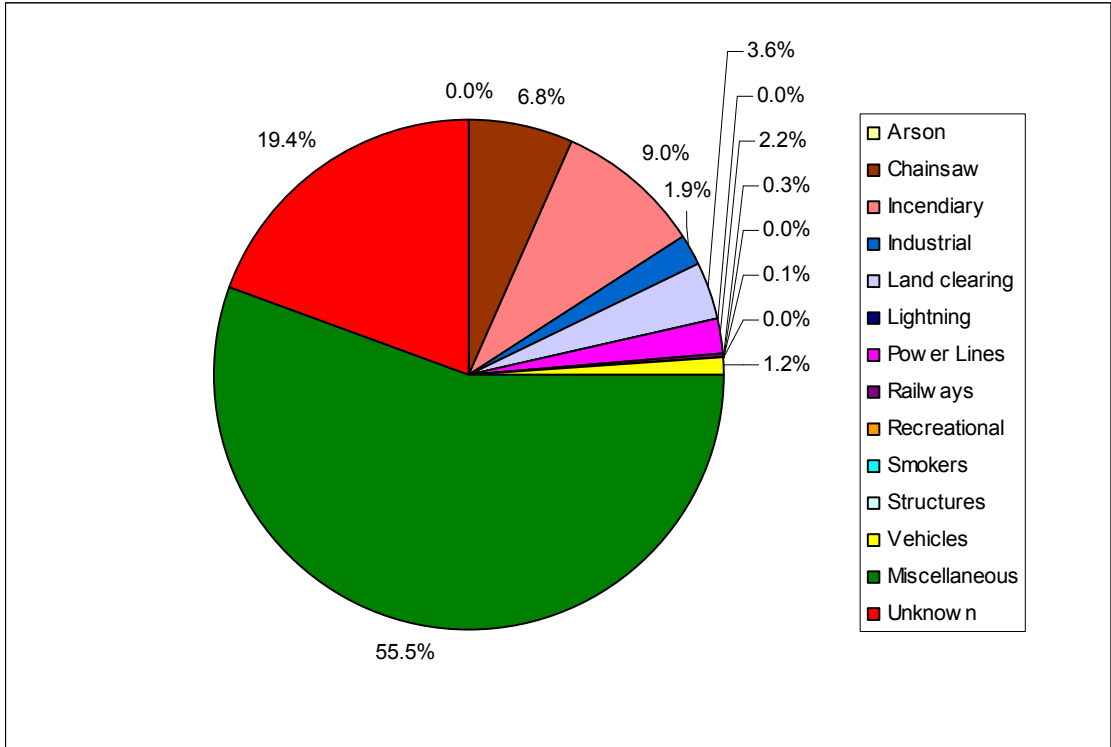


Figure NM.13 Nelson/Marlborough average total forest area burned by cause from 1991/92 to 2006/07.

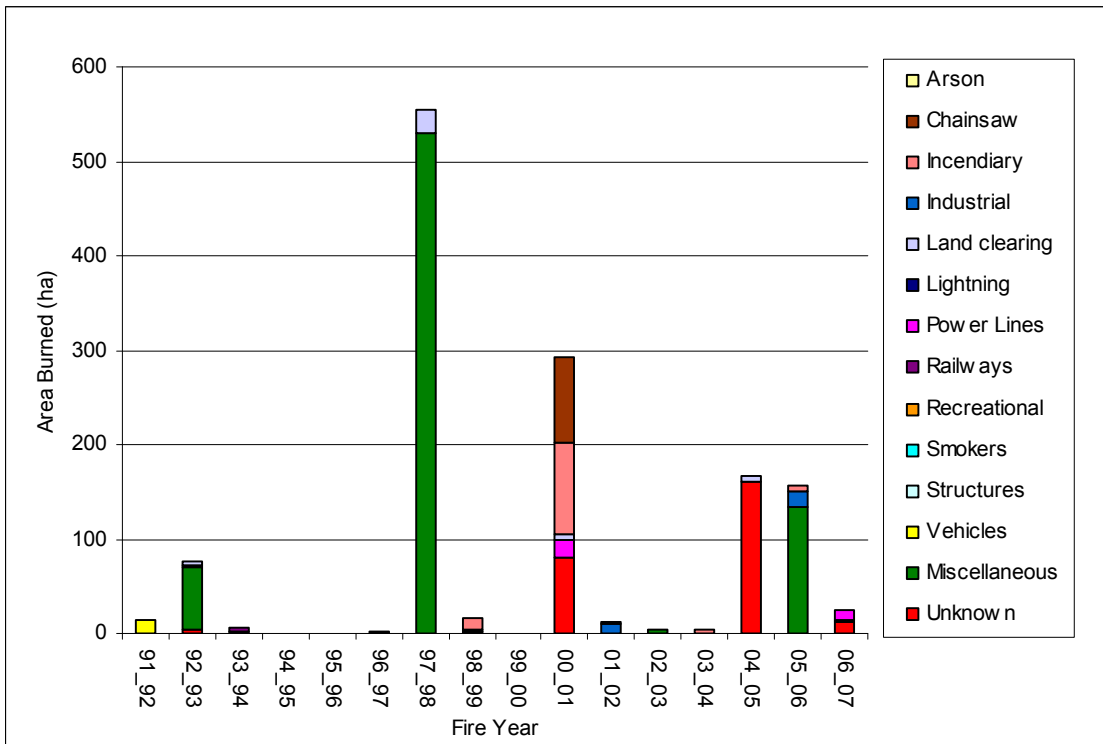


Figure NM14. Nelson/Marlborough total forest area burned by cause from 1991/92 to 2006/07.