

Aerial Survey of Wetland Birds in Eastern Australia - October 2015 Annual Summary Report

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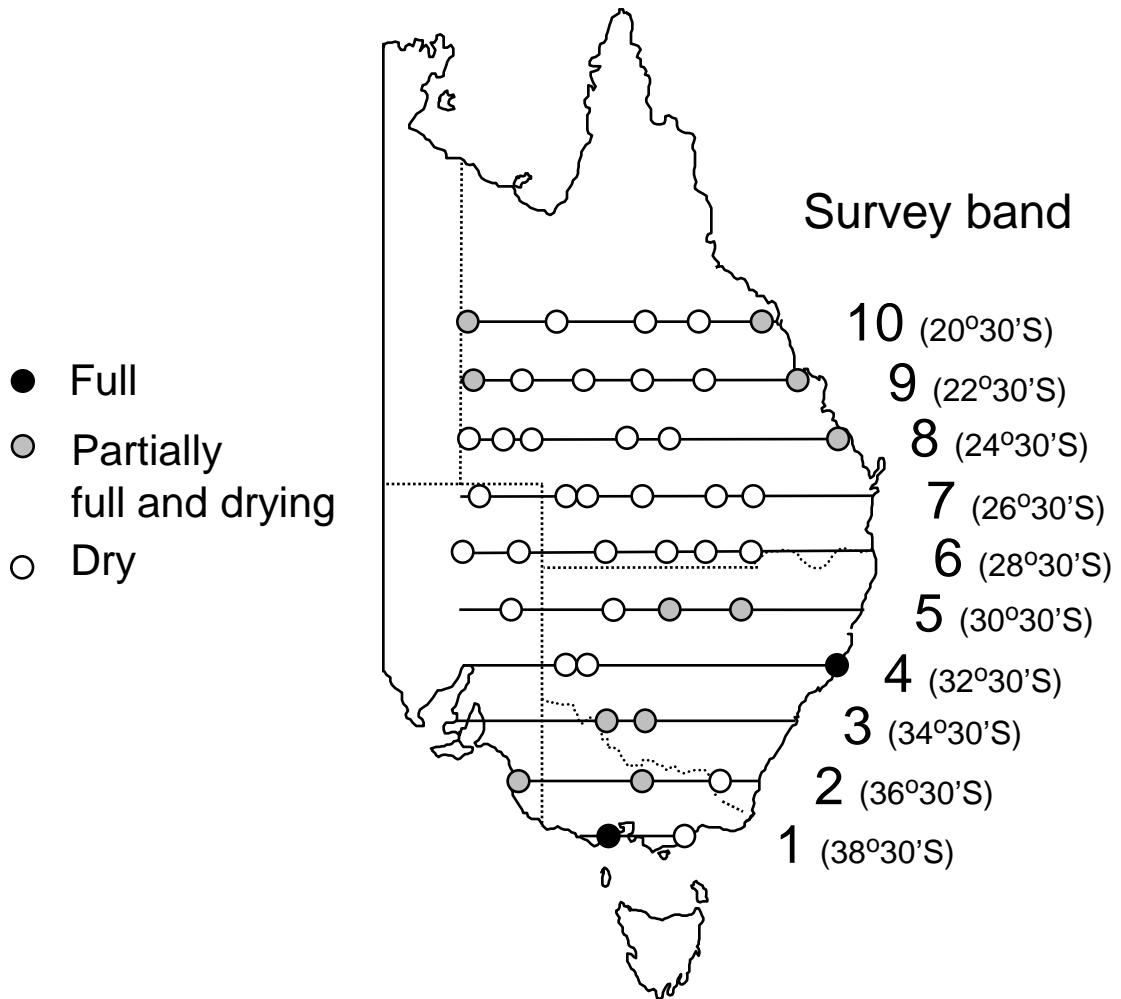
2015 Summary

1. Rainfall in eastern Australia has been well below average for the preceding 3 years (since the last La Niña in 2012). Much of southern study area has had below-average April–November rainfall during three of the last four years. Rainfall deficiencies have increased in severity and extent for South Australia, Victoria, central and north eastern Queensland and Tasmania (BOM 2015).
2. There were continued long term (33 years) declines in total waterbird abundance, wetland area, breeding abundance and breeding species richness (Figs 2,3 & 6). These major indices all declined considerably in 2015, compared to the previous 3-5 year period and all were well below long term averages.
3. The Macquarie Marshes and Lowbidgee wetlands were partially filled by environmental flows but these were relatively small areas compared to large flooding years. Most rivers in the Murray-Darling Basin were also relatively dry with little wetland habitat on their floodplains in the survey bands. All of the large lakes in Menindee Lakes system in the survey band were dry (Fig. 1).
4. Wetland area index was at the lowest level on record (33 years). Lake Eyre and Cooper Creek wetlands were mostly dry except for a small group of rain filled wetlands east of Lake Eyre. Other important wetlands in the Lake Eyre Basin including the Diamantina and Georgina rivers, Lakes Galilee, Yamma Yamma, Torquinnie and Mumbleberry were dry (Fig. 1).
5. Waterbirds were concentrated in relatively few important sites; only four wetland systems held more than 5,000 birds: Lake Killalpaninna, Lake Allallina, Paroo overflow Lakes and Coolmunda Dam (Figs 1 & 4). These four wetlands held a relatively high proportion of the survey total (20%). There was also water in the Cooma-Monaro Lakes, providing habitat for hundreds of waterbirds.
6. Total breeding index (all species combined) was the lowest on record and well below the long term average (Fig. 5). Breeding was recorded only in a single location. Breeding species richness was also very low, with only black swans breeding in very low numbers (Figs 6 to 8).
7. Waterbird abundance was the second lowest on record (all species). Low numbers of waterbirds were observed on key wetland systems including Cooper Creek, Menindee Lakes, Paroo overflow, Cuttaburra channels, Macquarie Marshes, Coorong and the Lowbidgee (Figs 1 & 4).
8. Games species abundances were all well below long term averages, in many cases by an order of magnitude (Figs 9 to 29).

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Figure 1. Wetland map 2015



Key to wetlands from W-E, by band

- 10 Lake Moondarra, Cloncurry River, Flinders River, Campaspe R, Burdekin R
- 9 Georgina R, Eyre Ck, Hamilton R, Diamantina R, Lake Galilee, Styx R
- 8 Mumbleberry-Torquinnie Lakes, Eyre Ck, Diamantina R, Thomson R, Barcoo R, various small coastal wetlands
- 7 Goyder Lagoon, Lake Yamma Yamma, Cooper Ck, Bulloo R, Paroo R, Warrego R
- 6 Lake Eyre, Lake Hope, Bulloo R, Paroo R, Warrego R, Balonne R,
- 5 Lake Frome, Paroo O'flow, Darling R, Macquarie Marshes
- 4 Menindee Lakes, Talywalka Lakes, Myall Lakes
- 3 Murray River Lakes, Lowbidgee Swamp
- 2 Coorong, Cooper + Mokoan Lakes, Cooma-Monaro
- 1 Curdies Inlet, Jack Smith Lake

Figure 2. Total wetland area

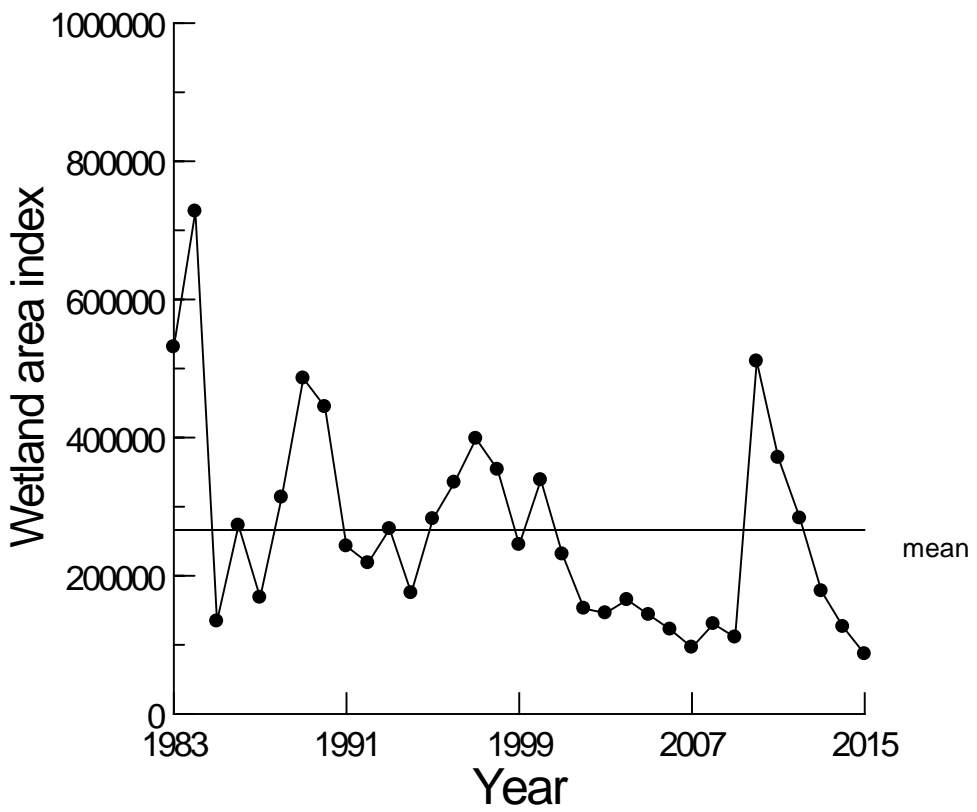


Figure 3. Total waterbirds

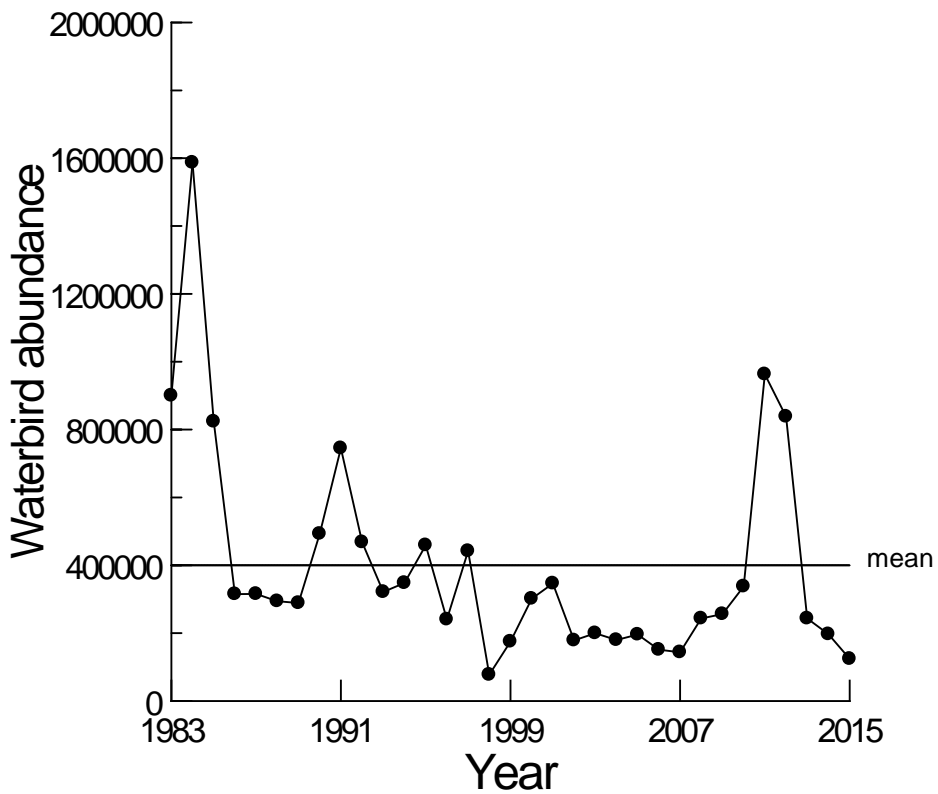
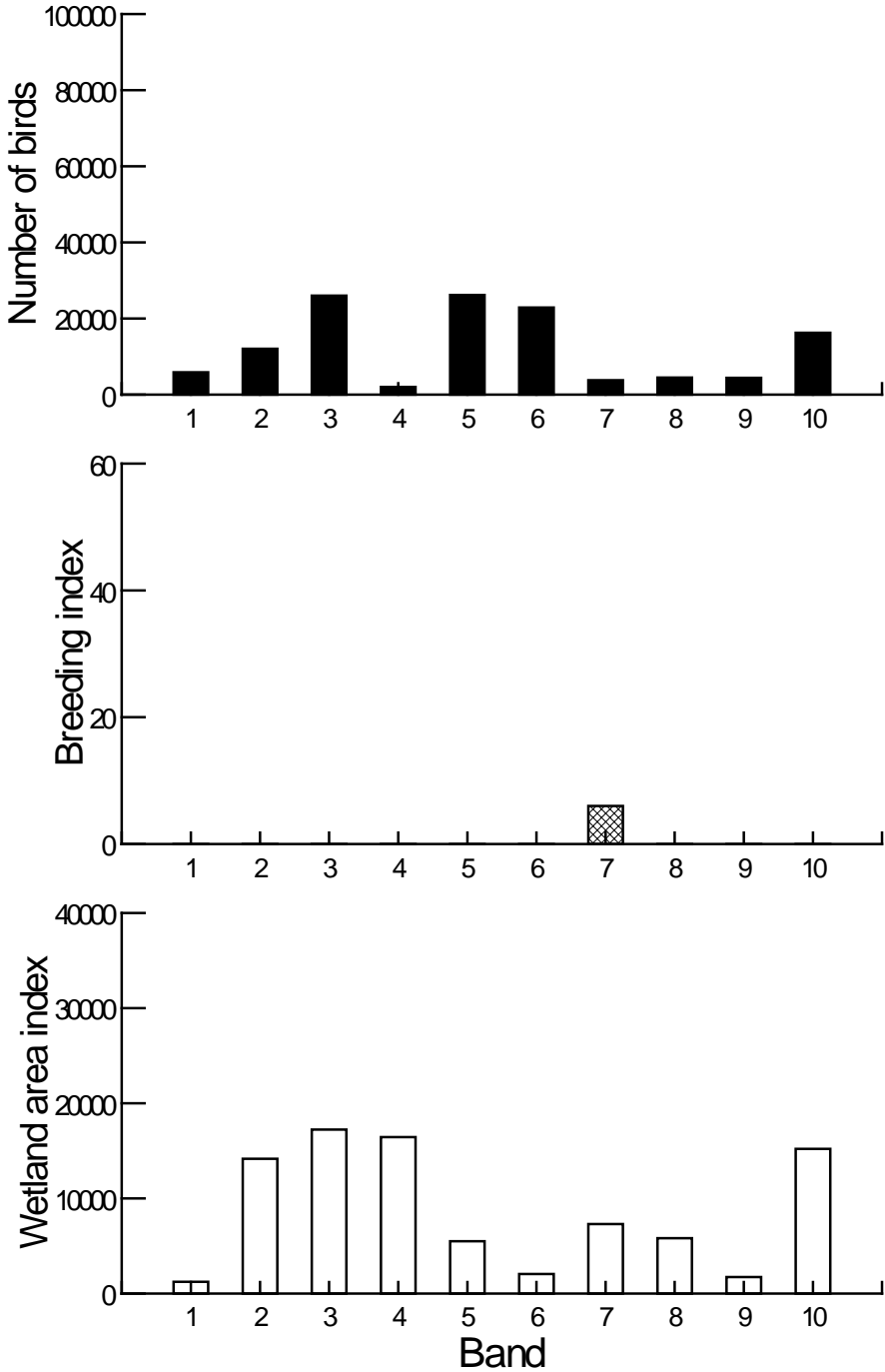


Figure 4. Band totals 2015



Scales vary on graph axes

Figure 5. Breeding index (all species)

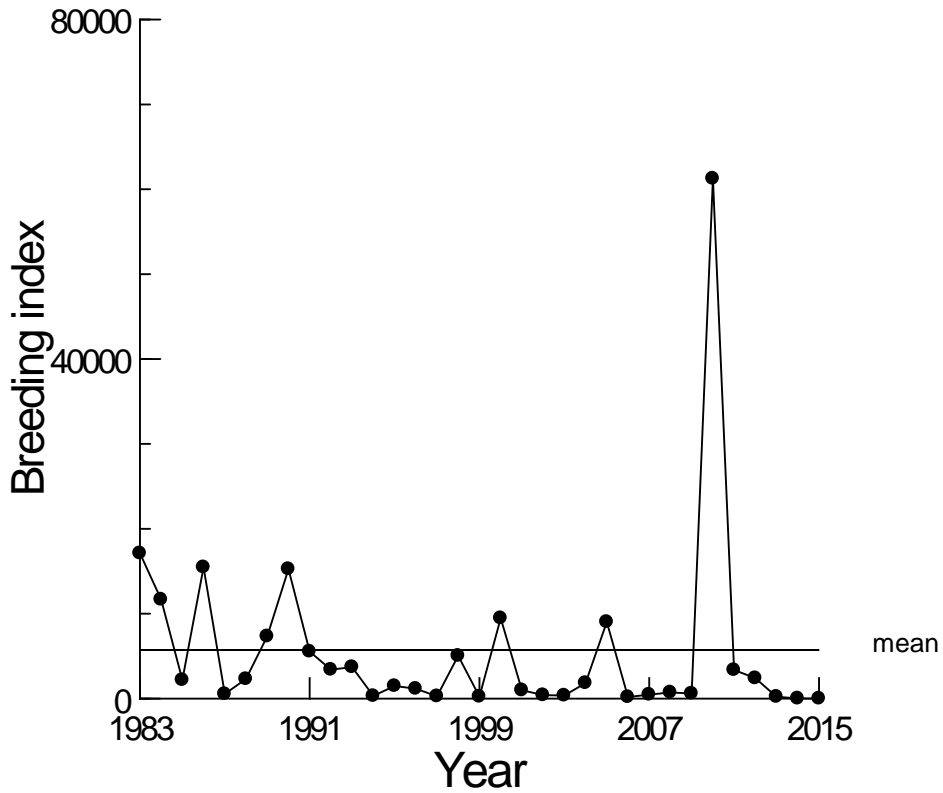
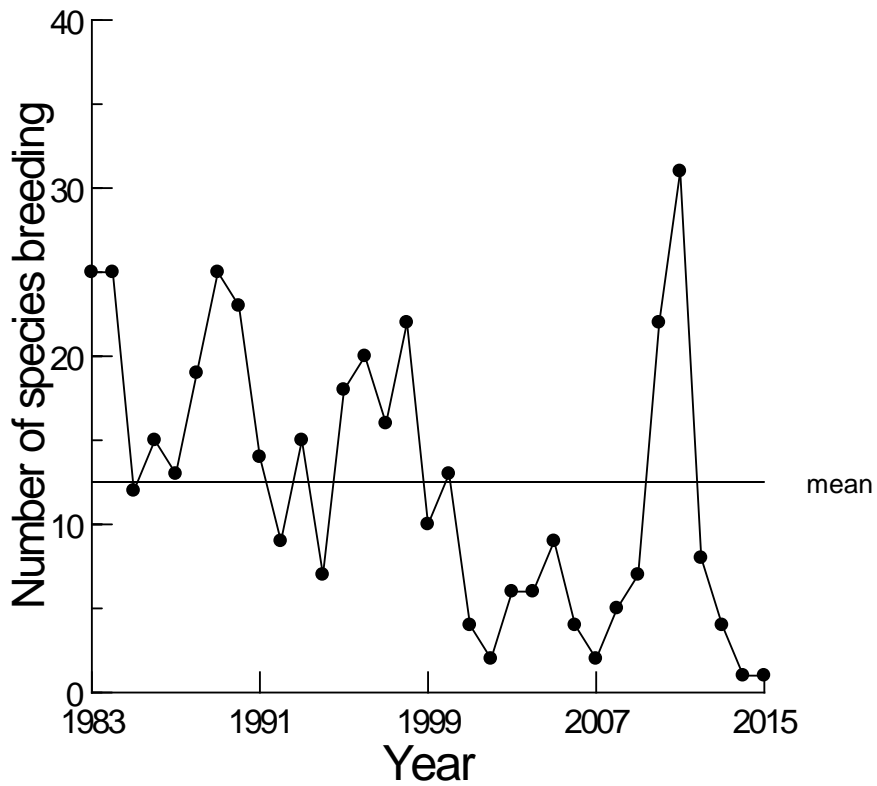
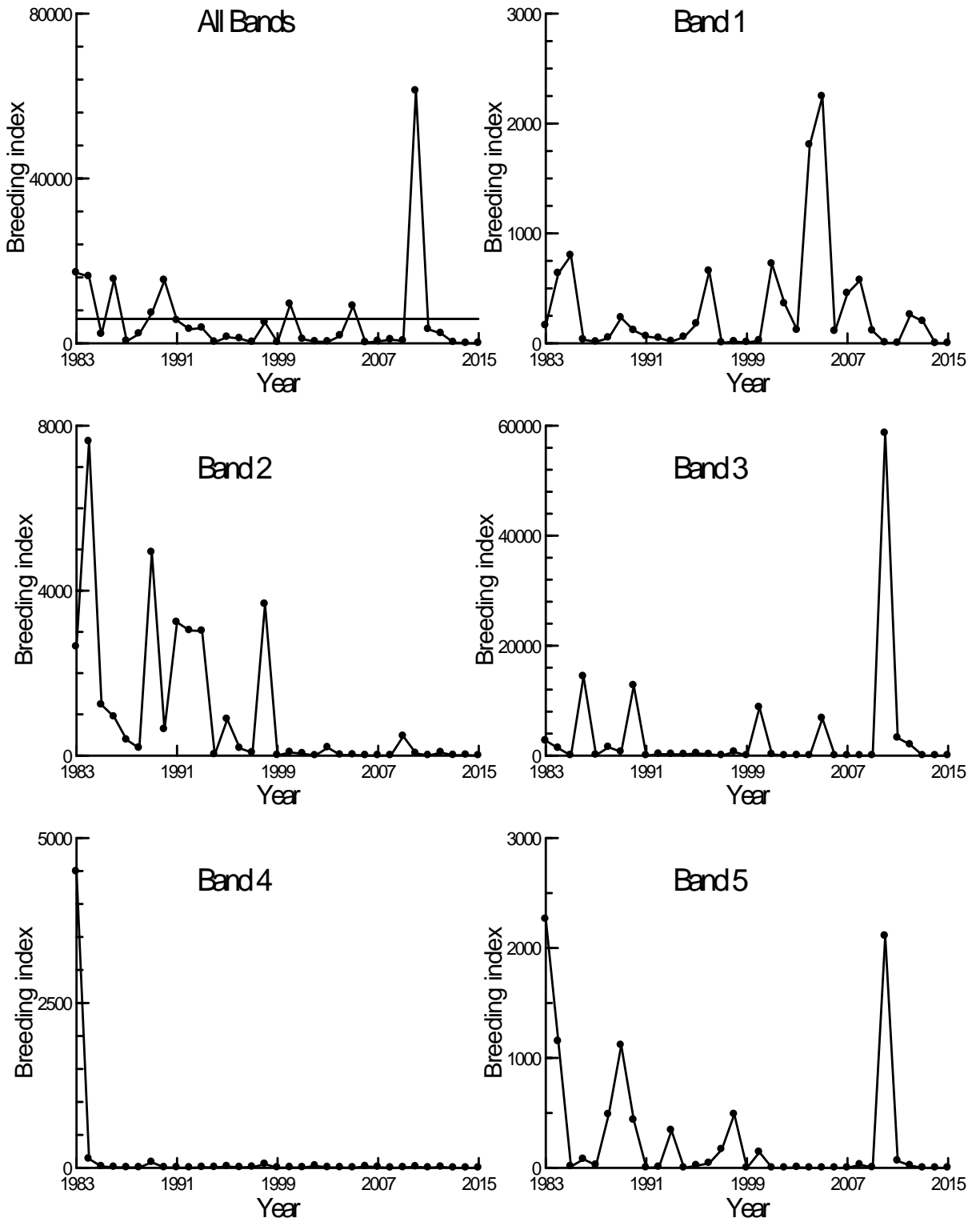


Figure 6. Number of species breeding



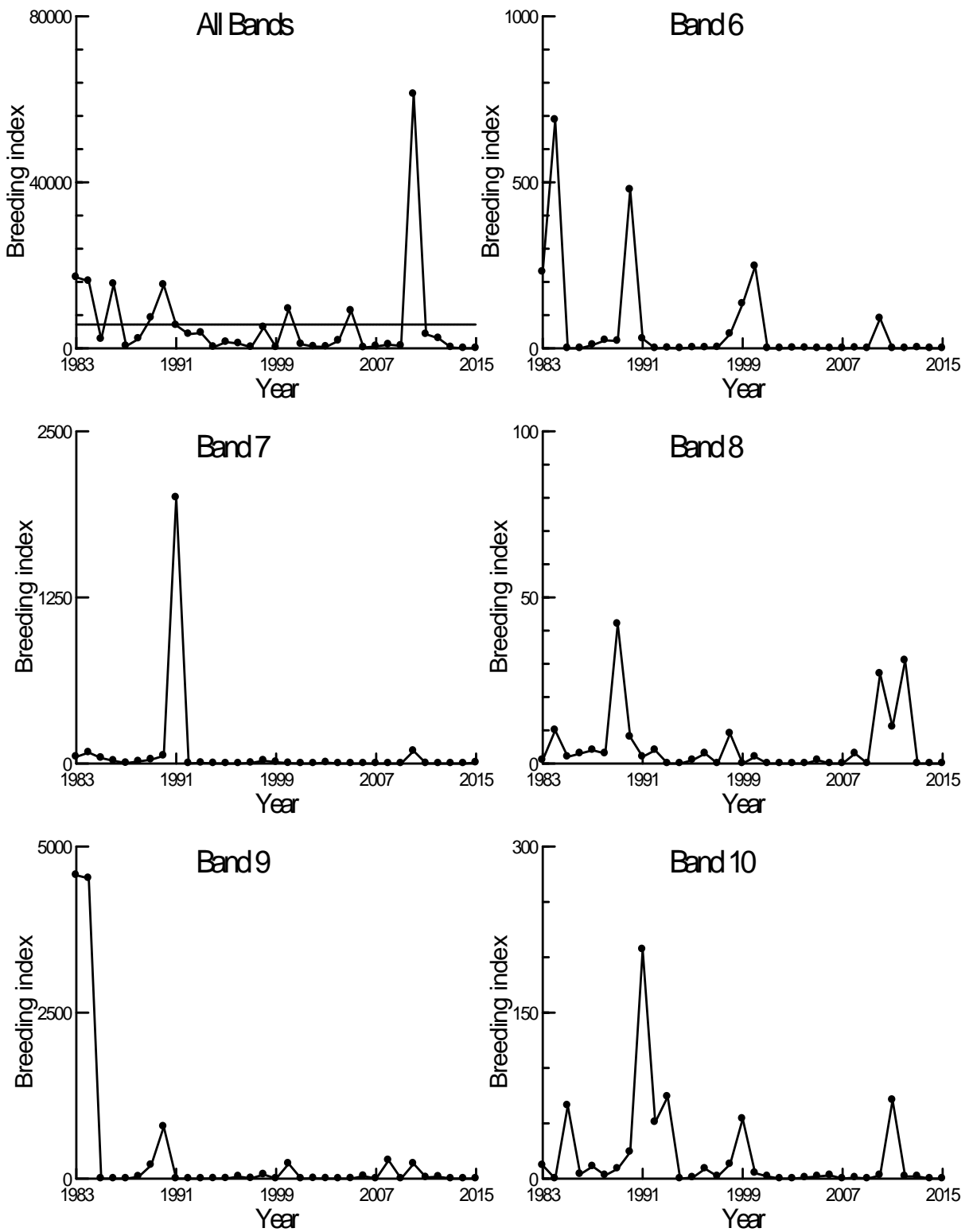
Scales vary on graph axes

Figure 7. Breeding index (all species) Bands 1-5



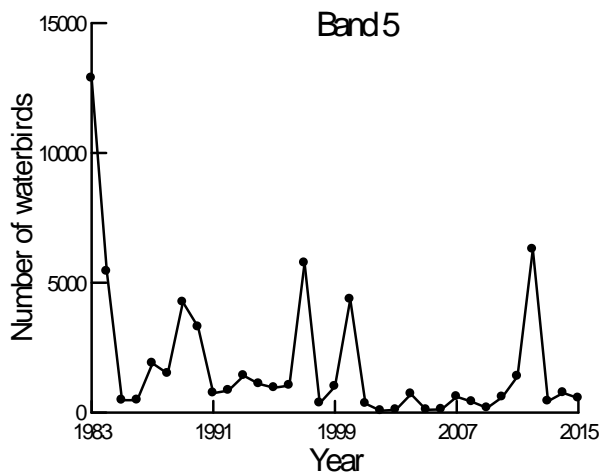
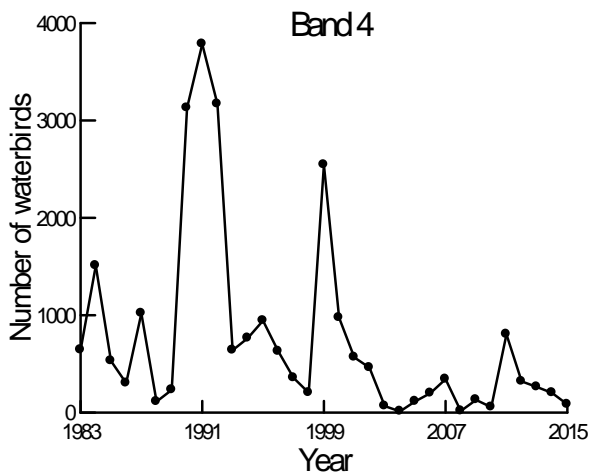
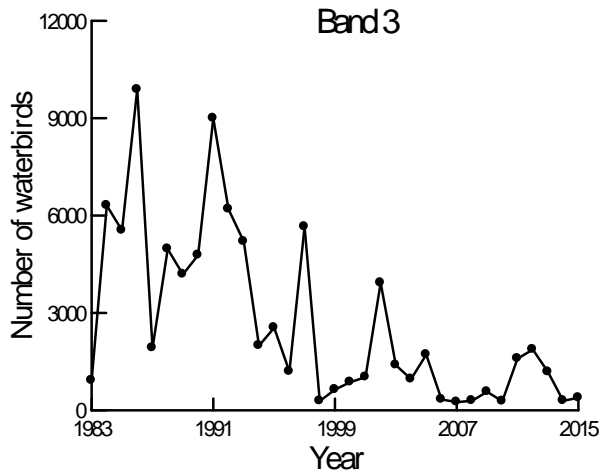
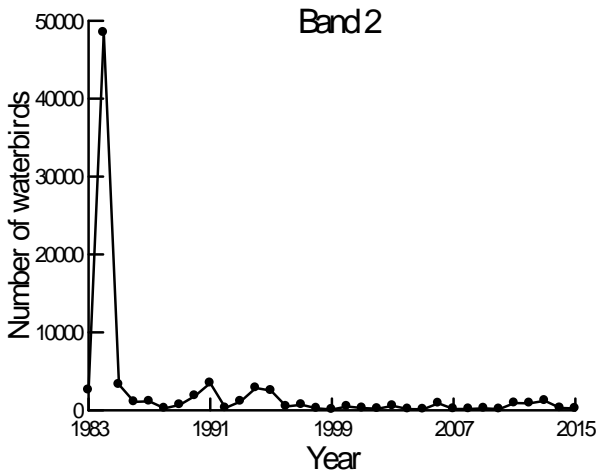
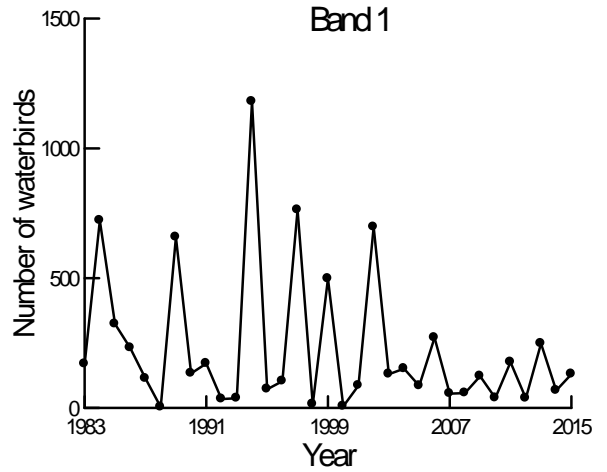
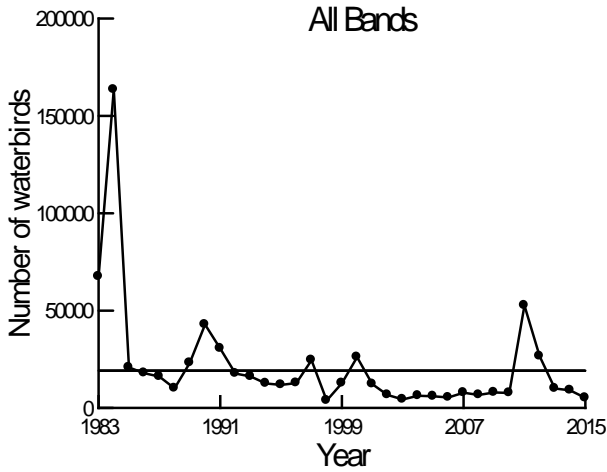
Scales vary on graphs

Figure 8. Breeding index (all species) Bands 6-10



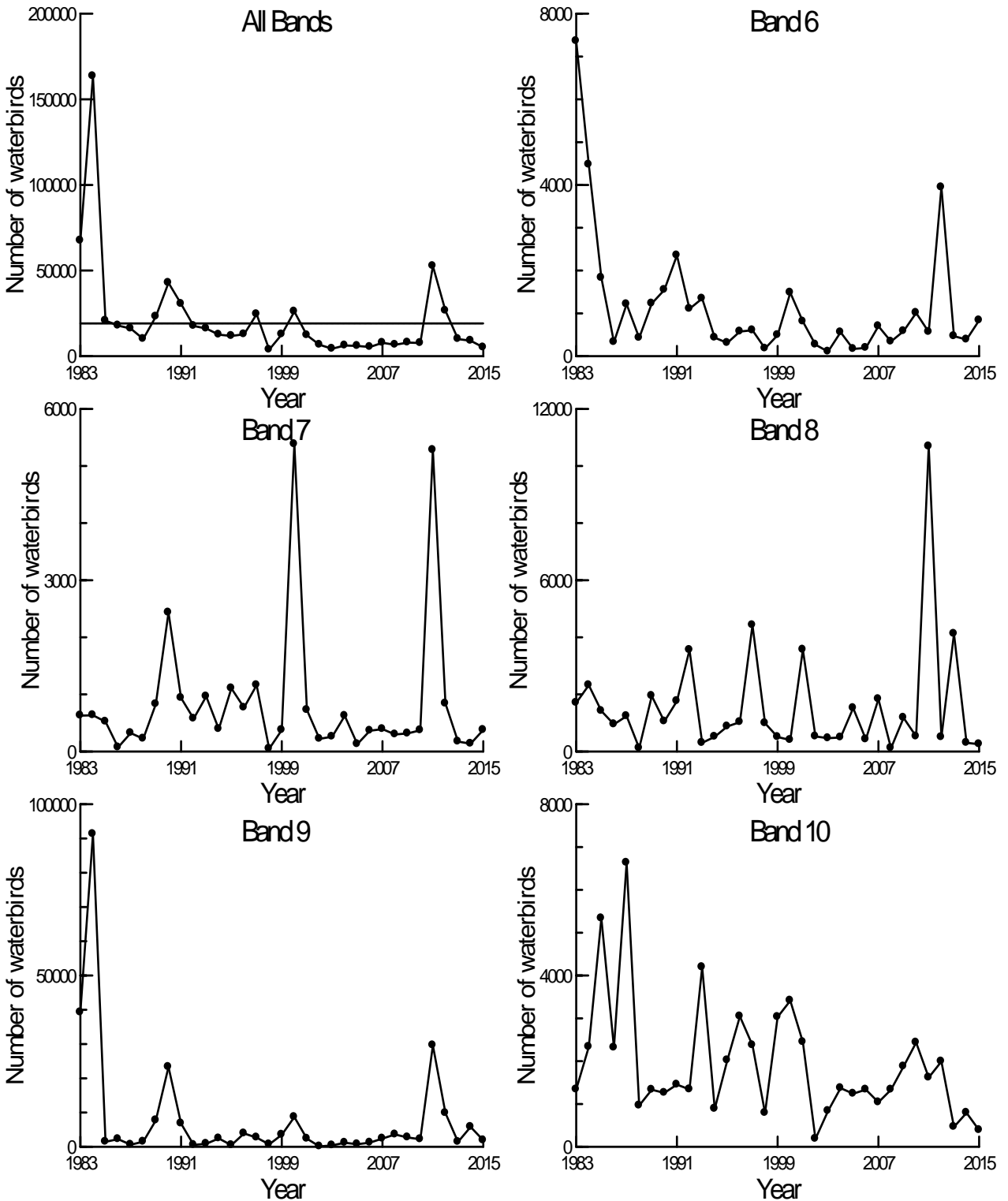
Scales vary on graphs

Figure 9. Pacific black duck Bands 1-5



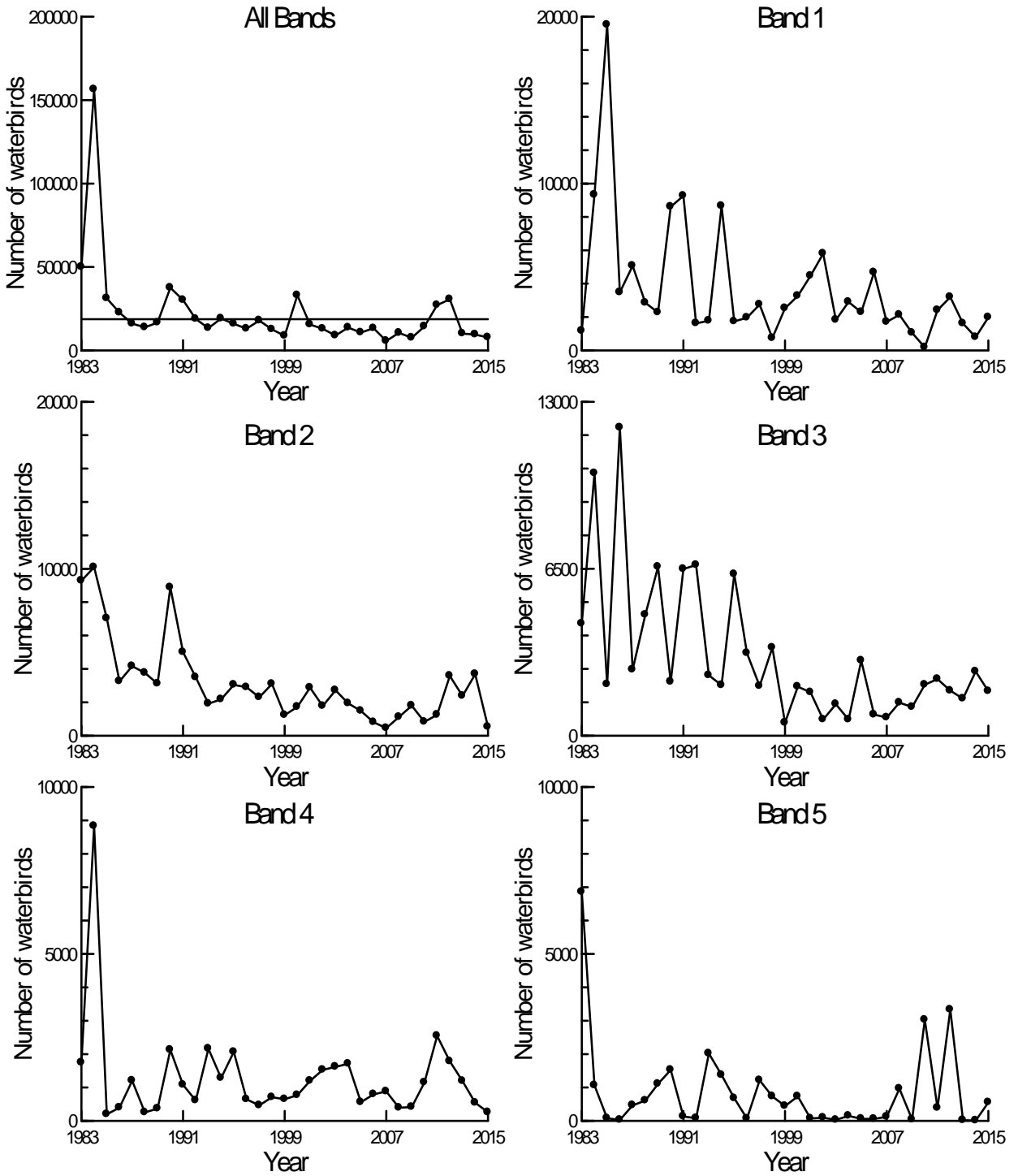
Scales vary on graphs – dashed line indicates long term average

Figure 10. Pacific black duck Bands 6-10



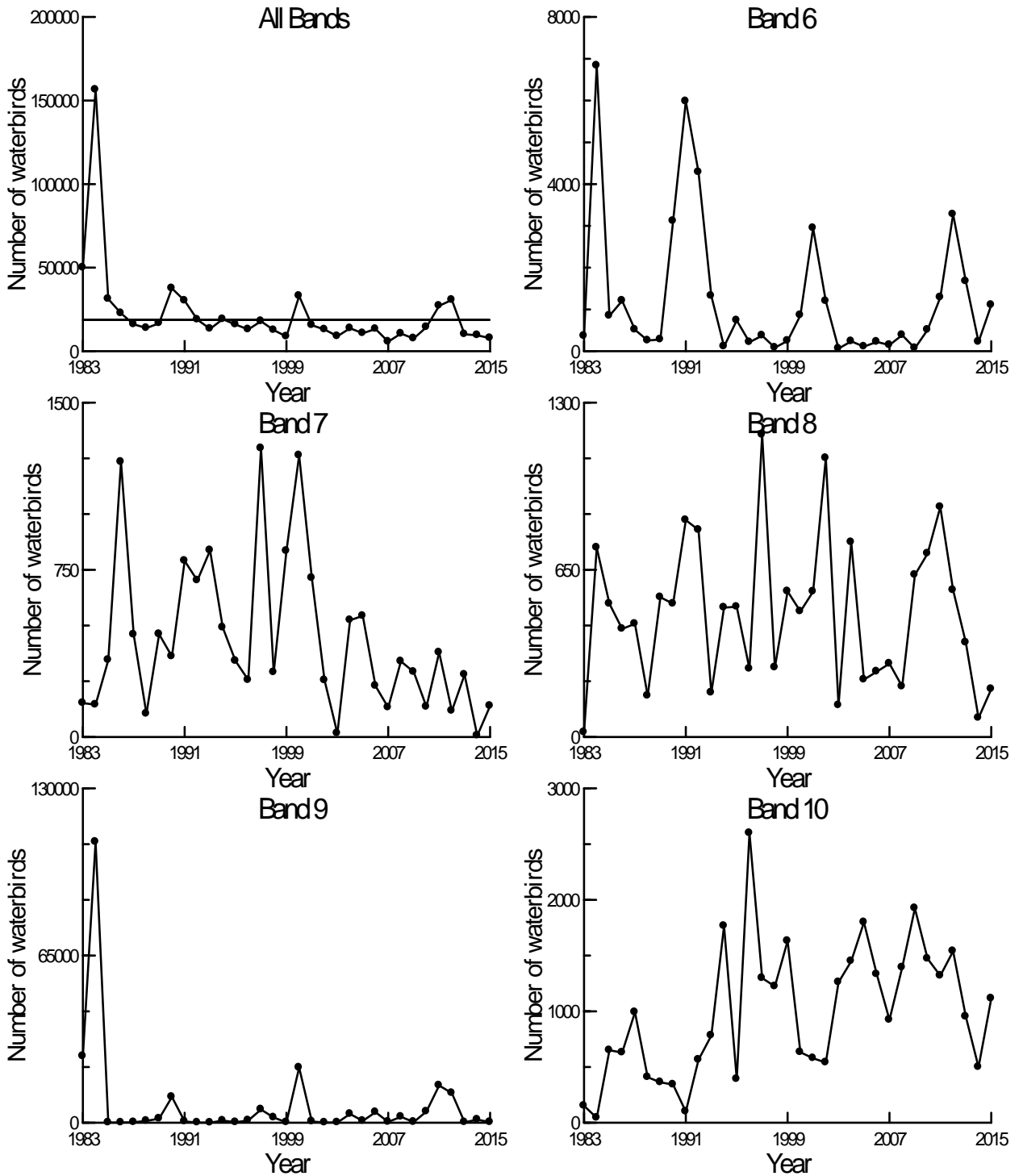
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Figure 11. Black swan Bands 1-5



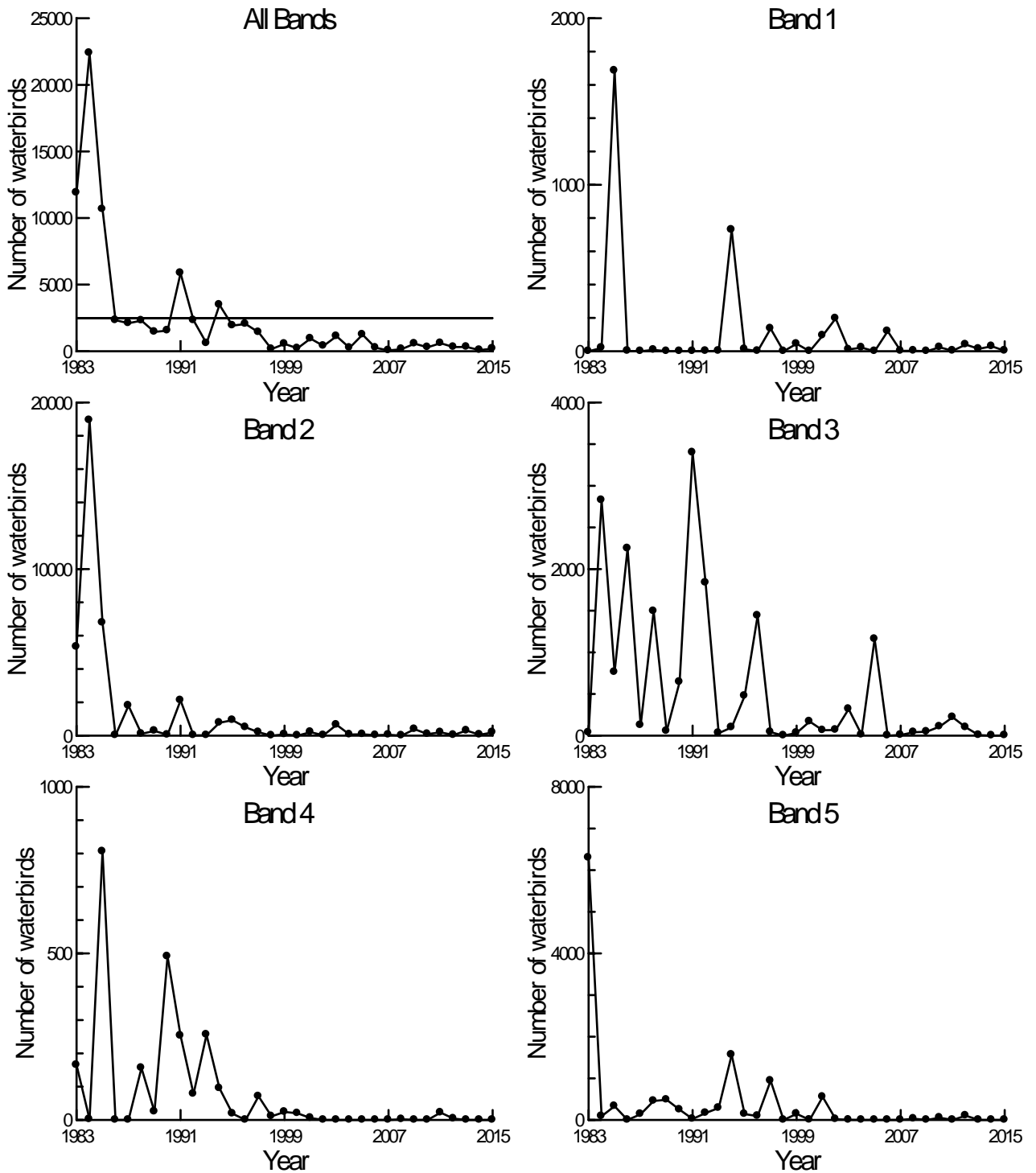
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Figure 12. Black swan Bands 6-10



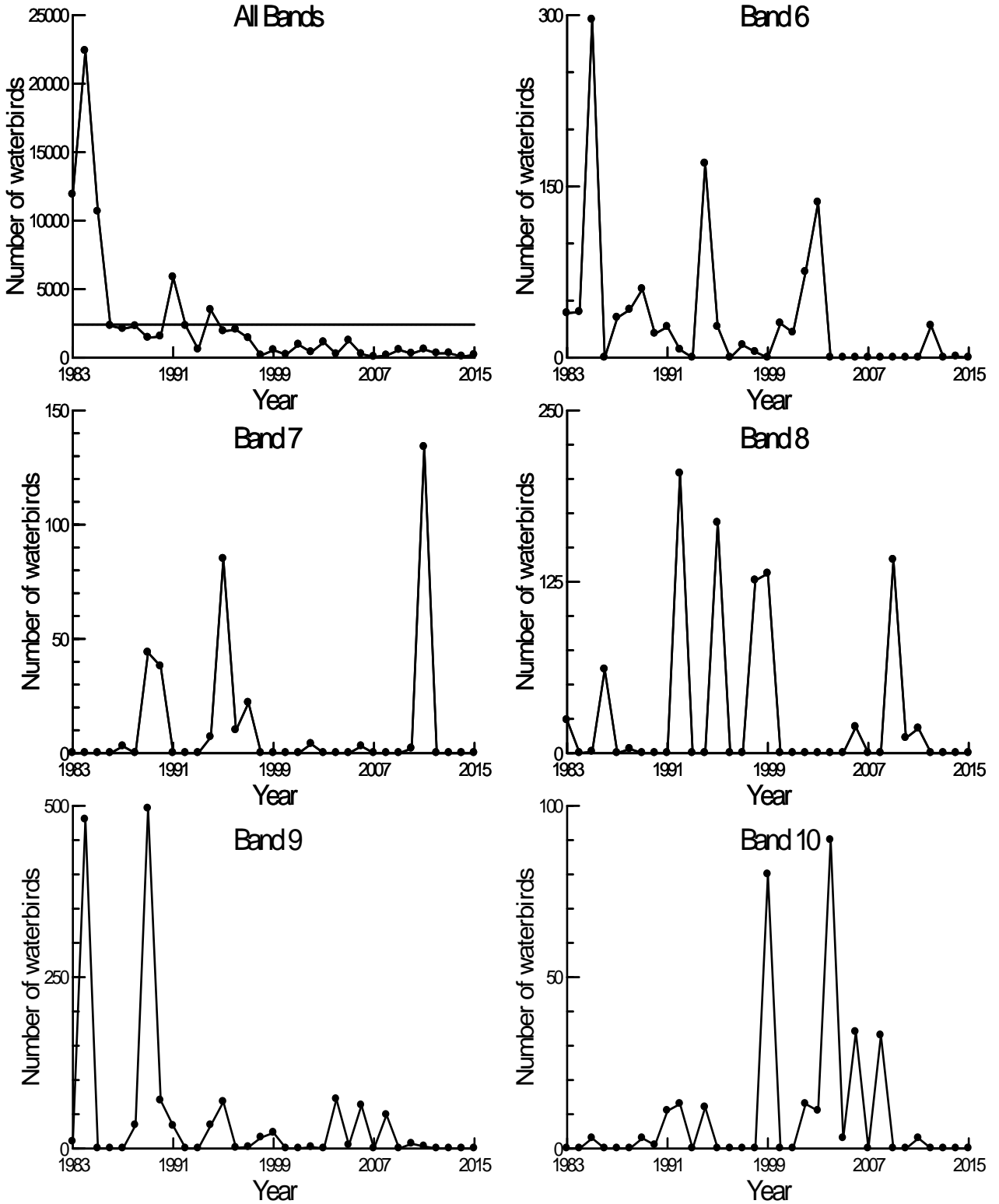
Scales vary on graphs – dashed line indicates long term average

Figure 13. Australasian shoveler Bands 1-5



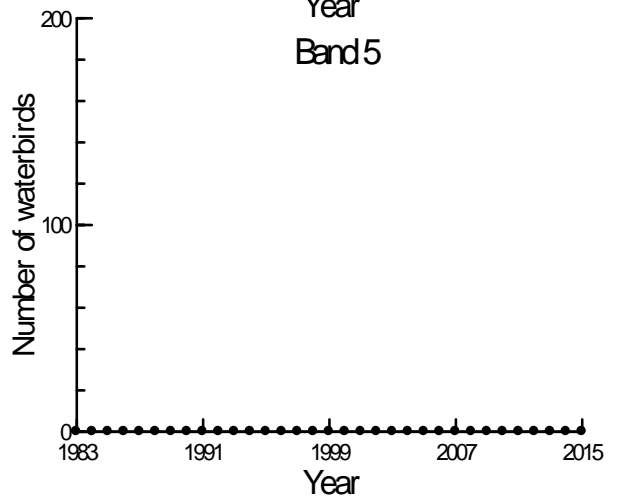
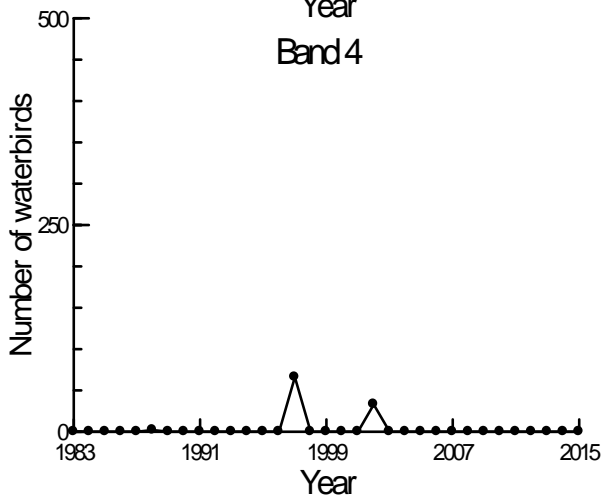
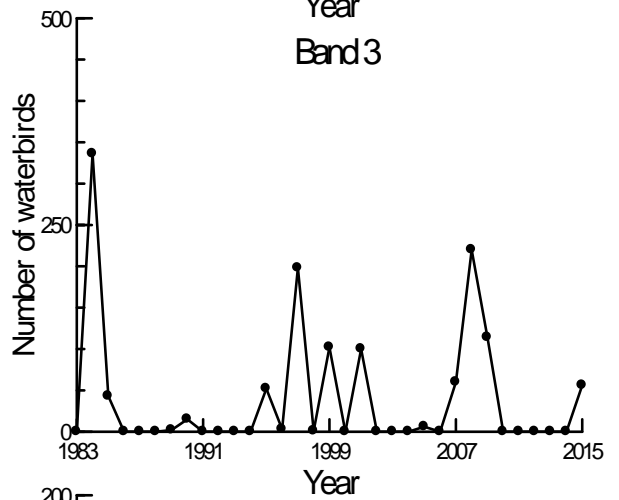
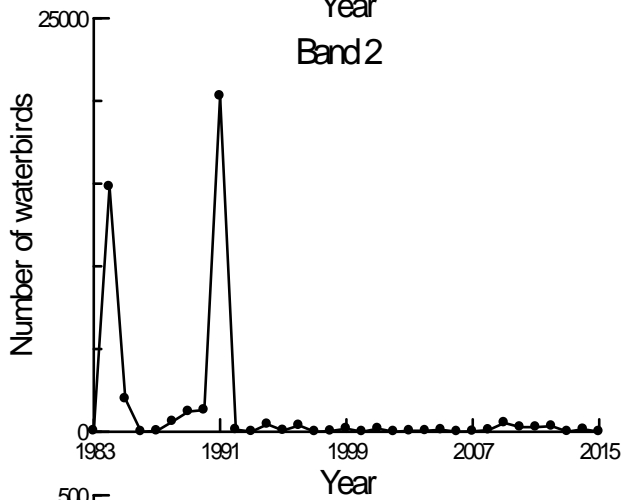
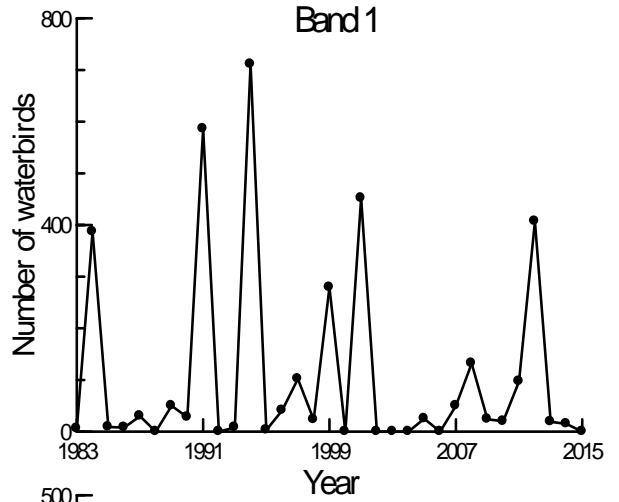
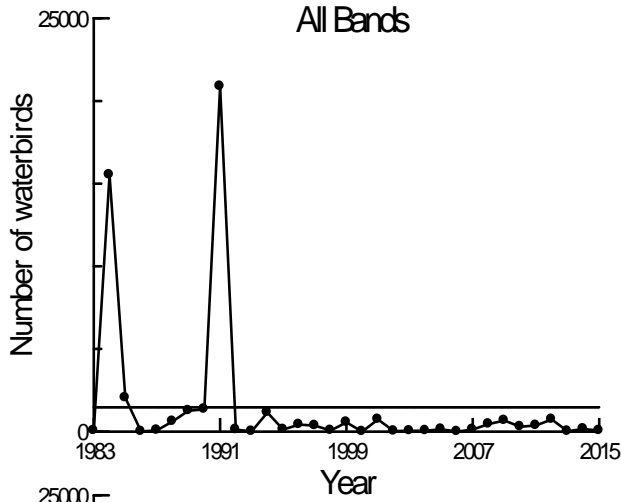
Scales vary on graphs – dashed line indicates long term average

Figure 14. Australasian shoveler Bands 6-10



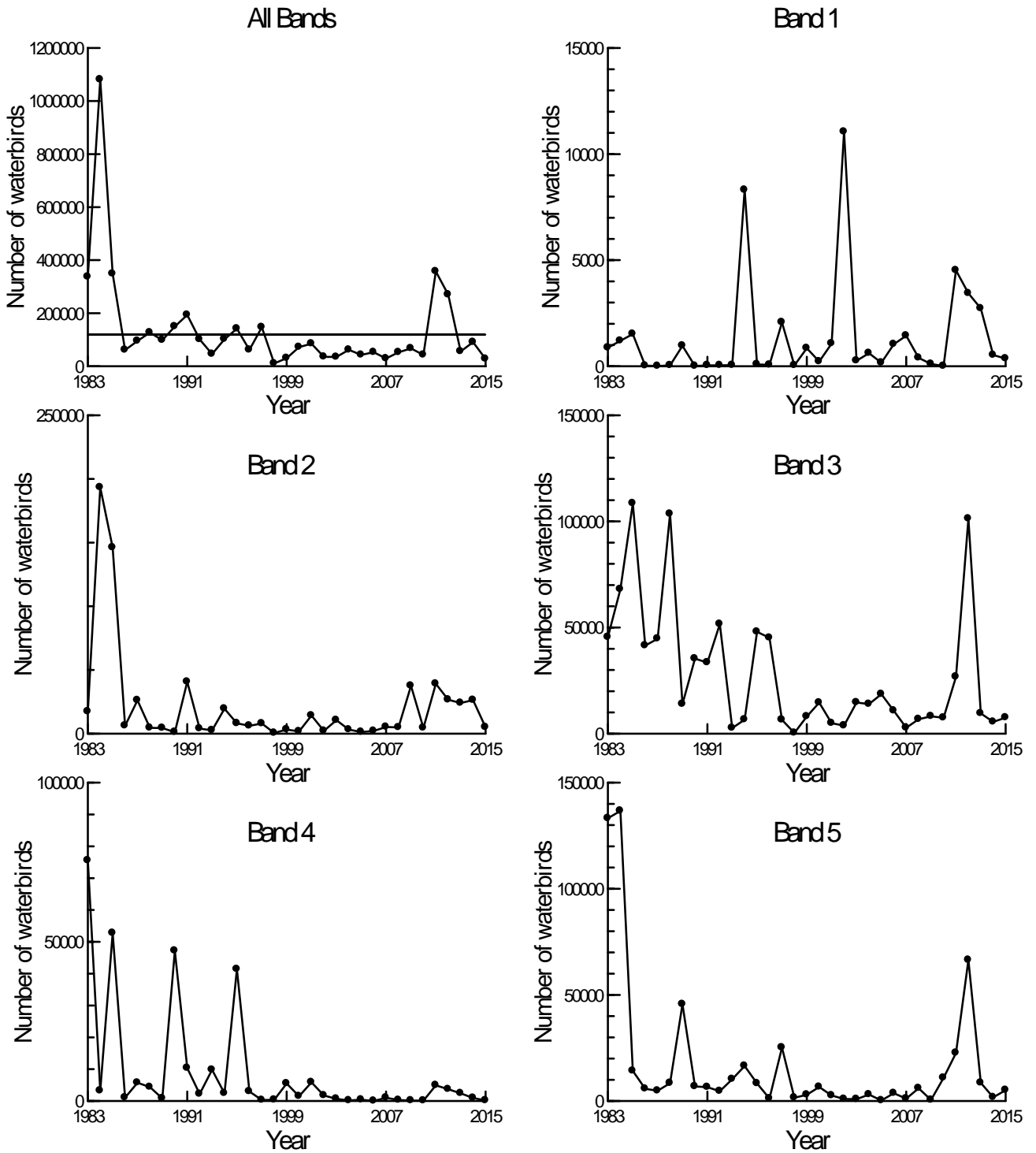
Scales vary on graphs – dashed line indicates long term average

Figure 15. Chestnut teal Bands 1-5



Scales vary on graphs – dashed line indicates long term average

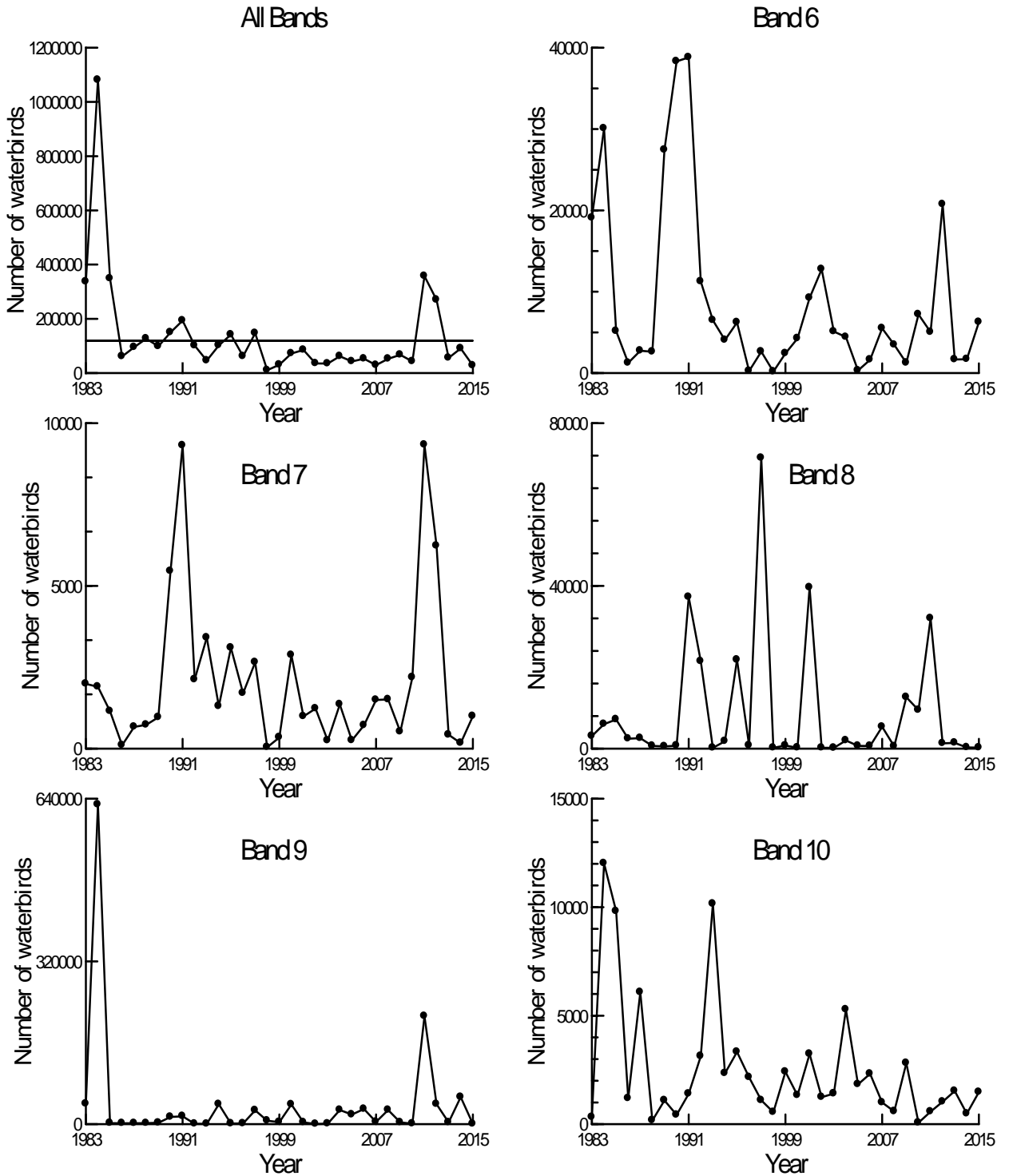
Figure 16. Grey teal Bands 1-5



Scales vary on graphs – dashed line indicates long term average

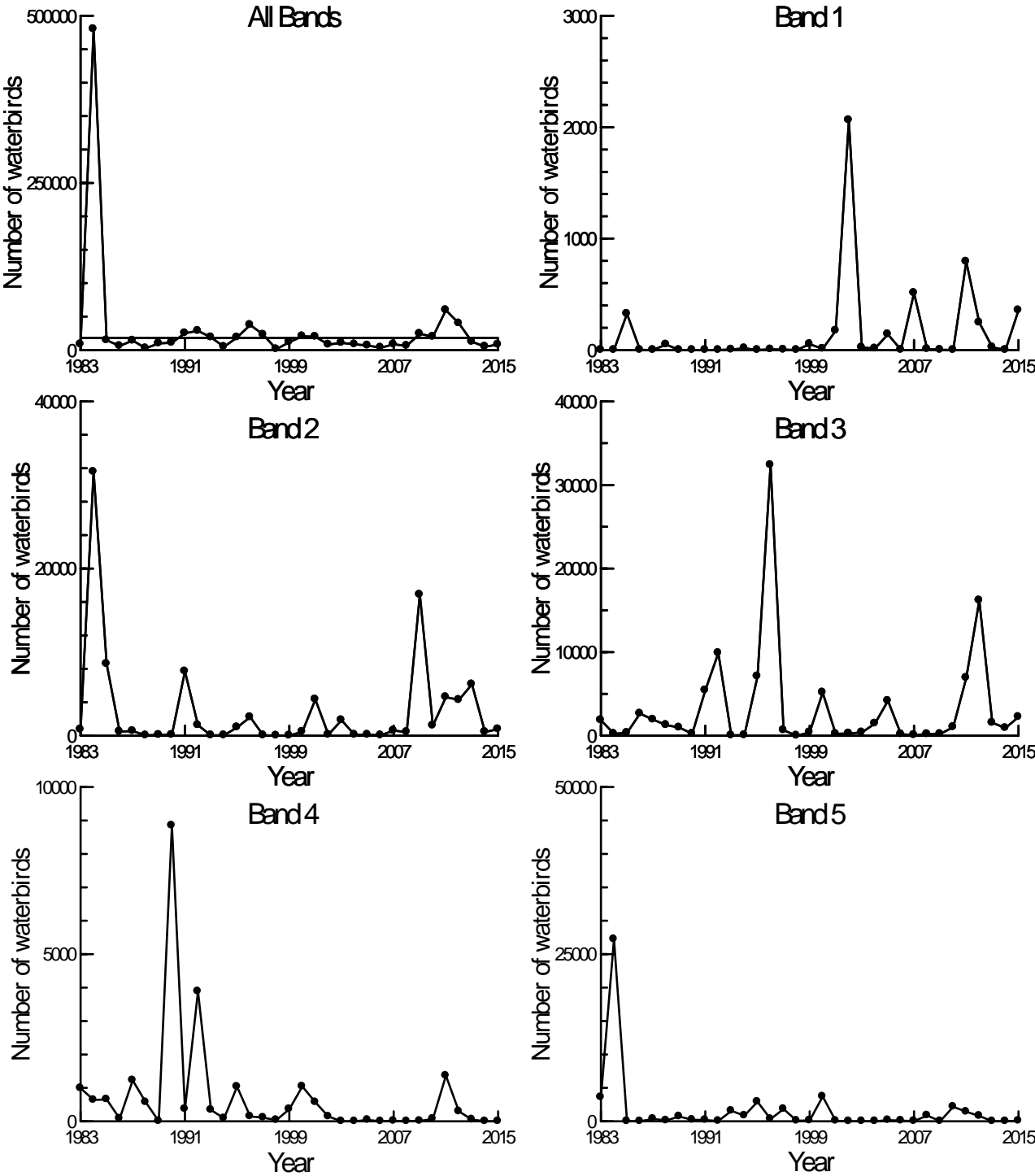


Figure 17. Grey teal Bands 6-10



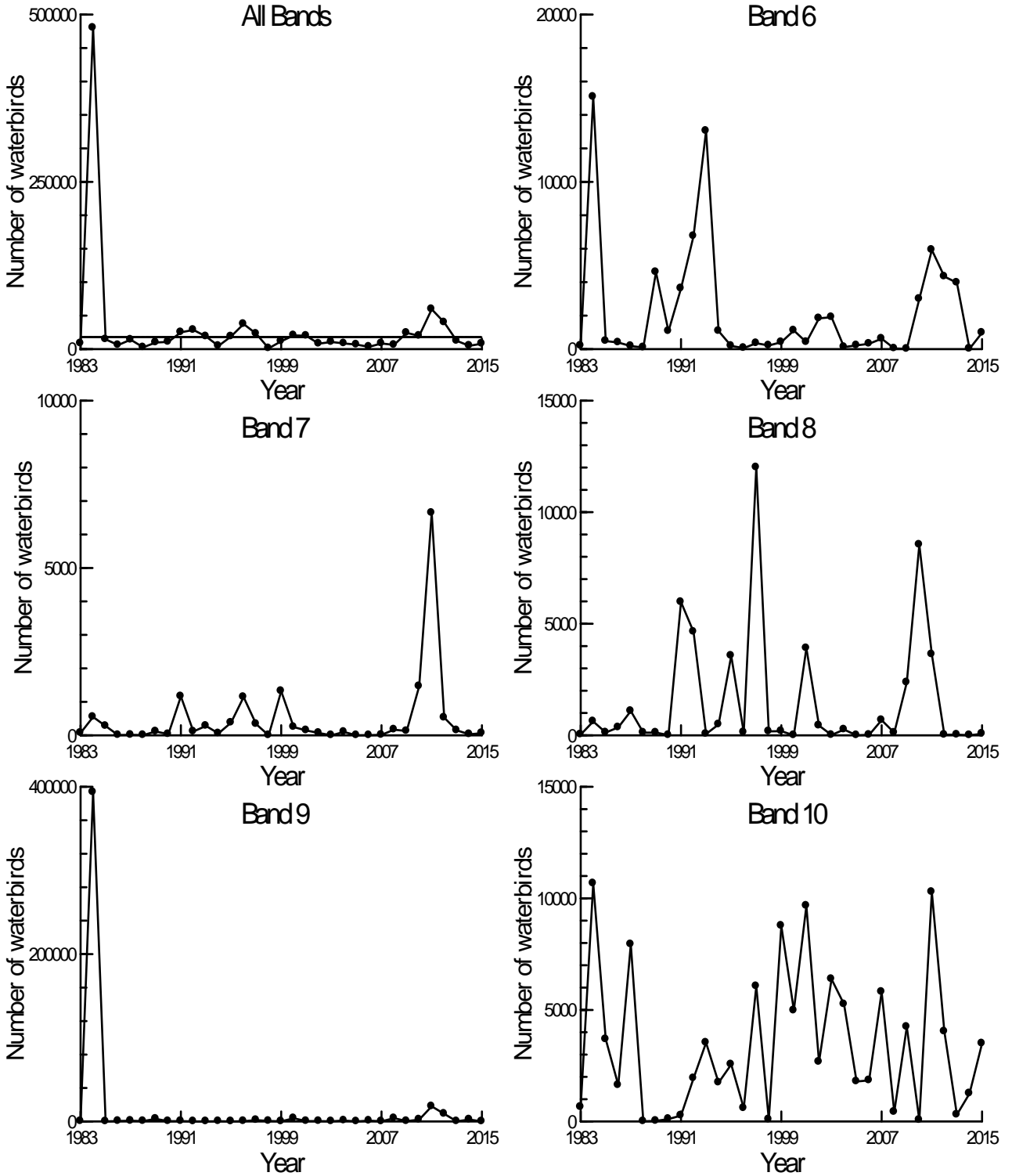
Scales vary on graph – dashed line indicates long term average s

Figure 18. Hardhead Bands 1-5



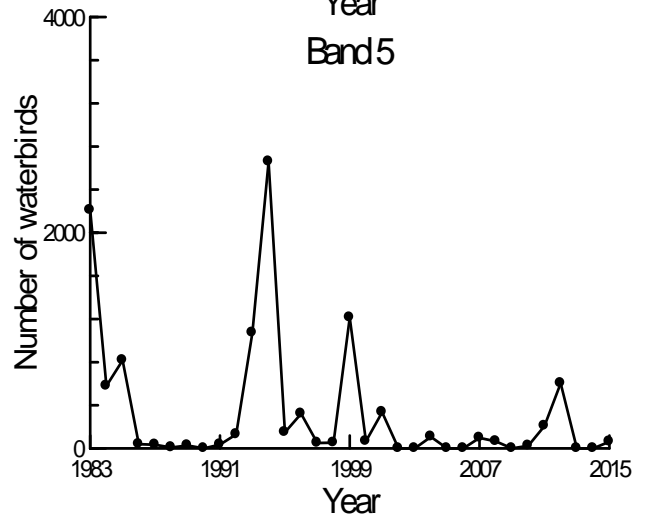
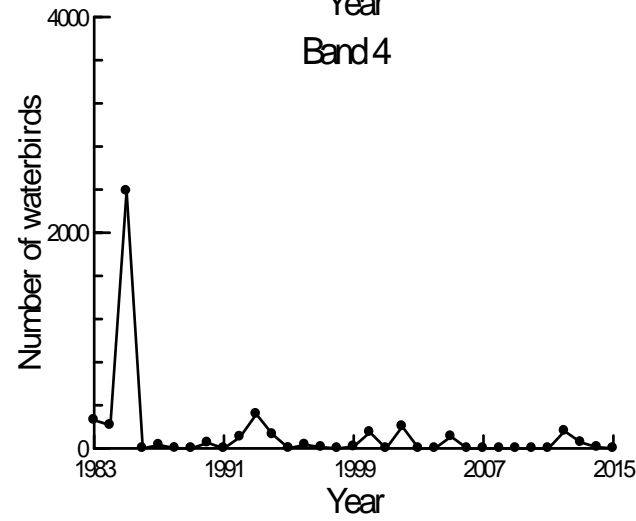
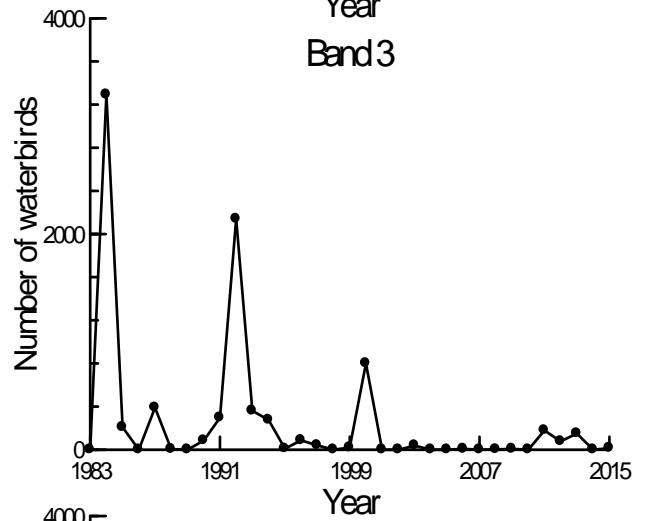
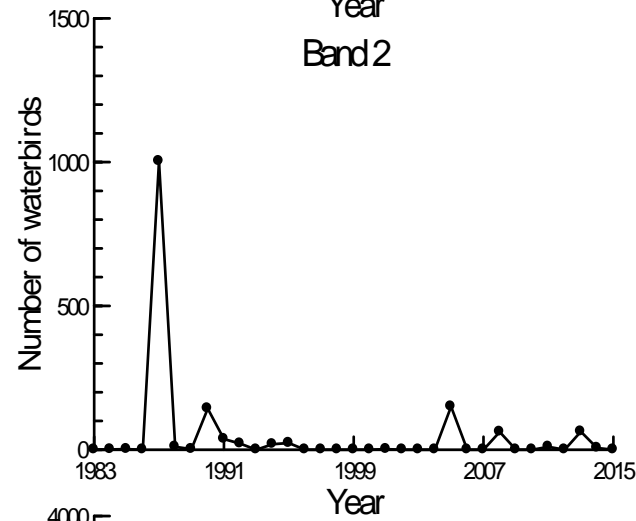
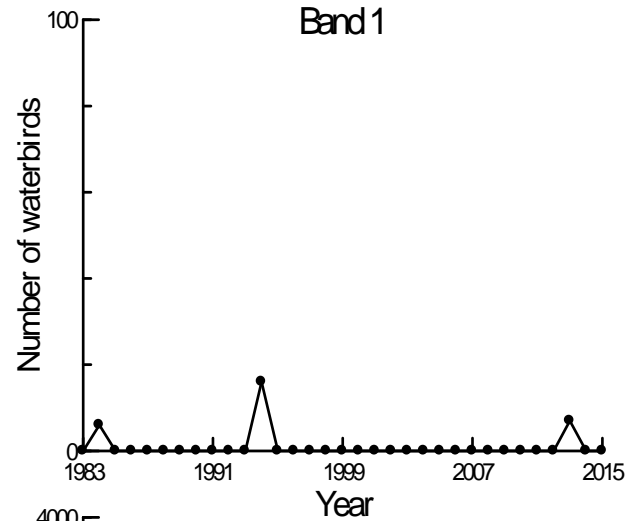
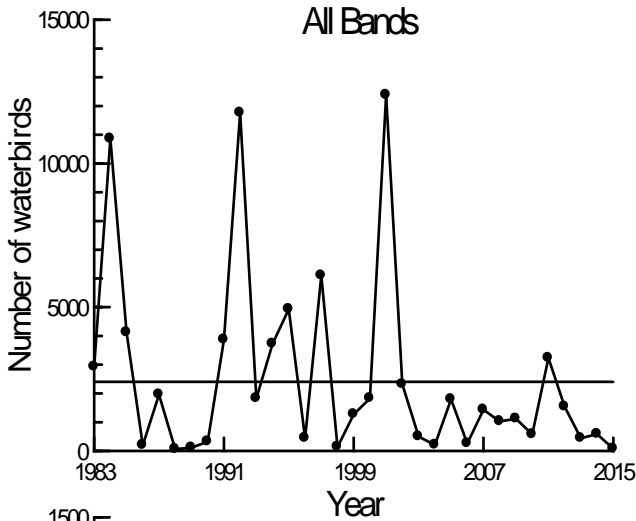
Scales vary on graphs – dashed line indicates long term average

Figure 19. Hardhead Bands 6-10



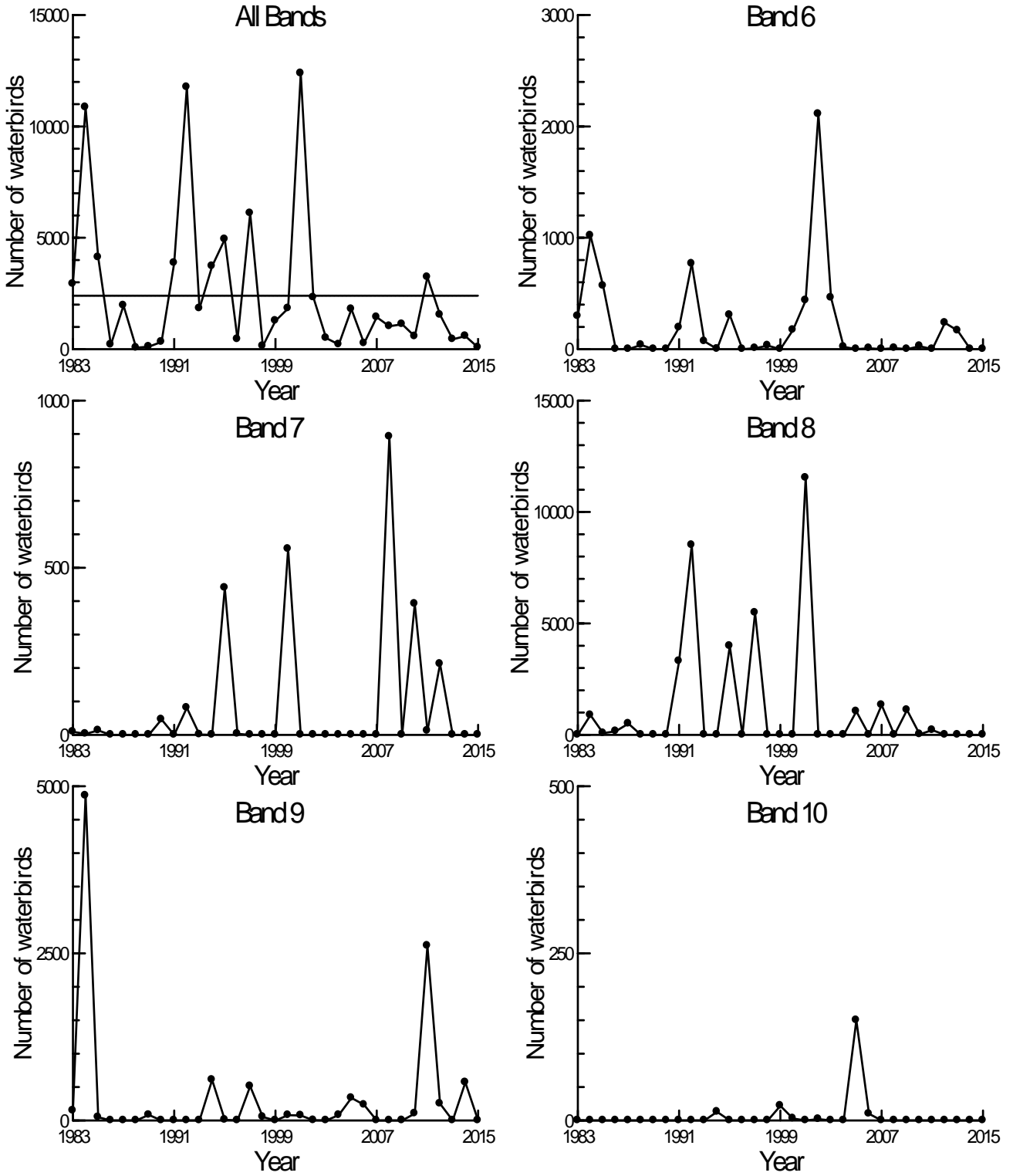
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Figure 20. Freckled duck Bands 1-5



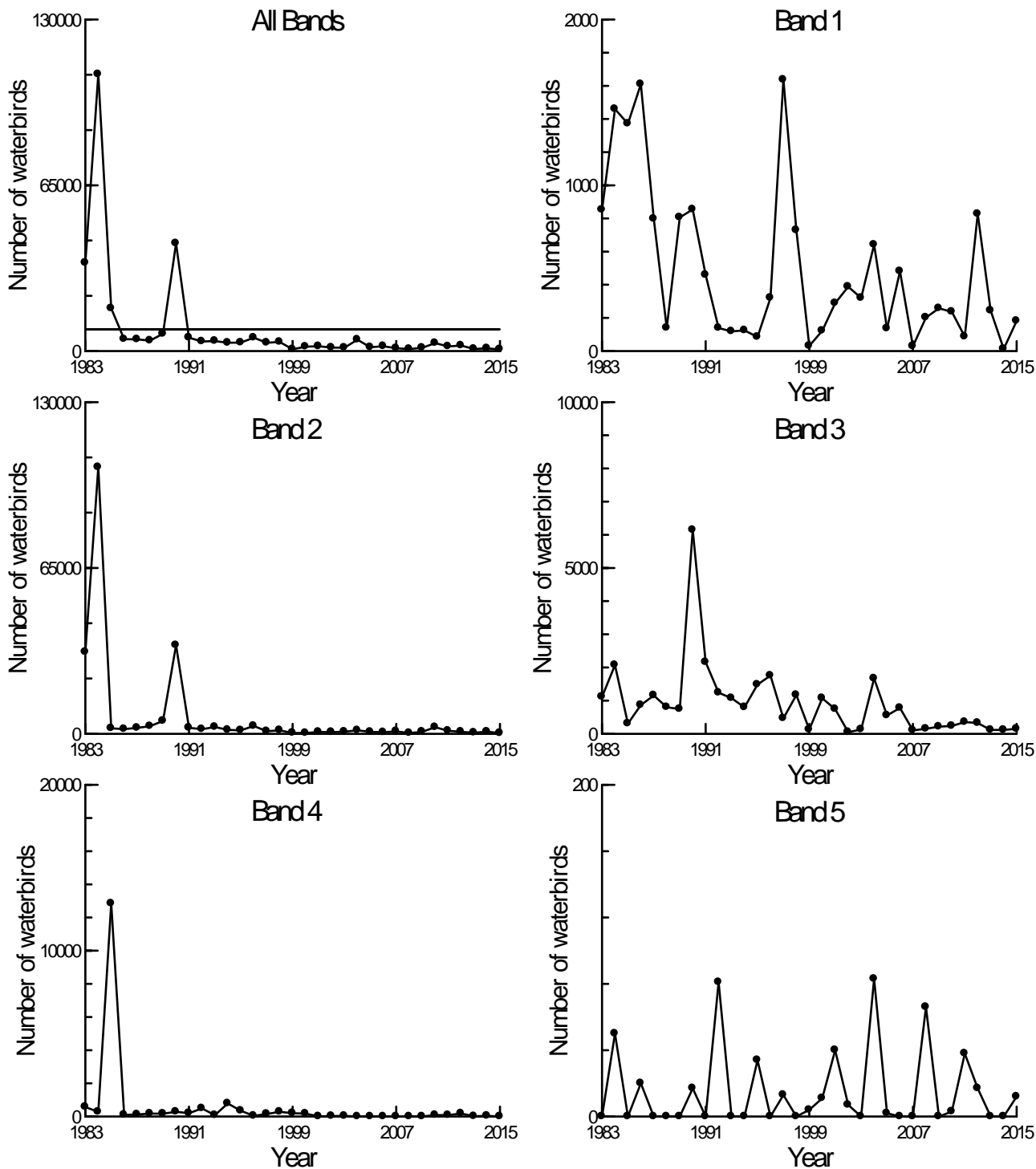
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Figure 21. Freckled duck Bands 6-10



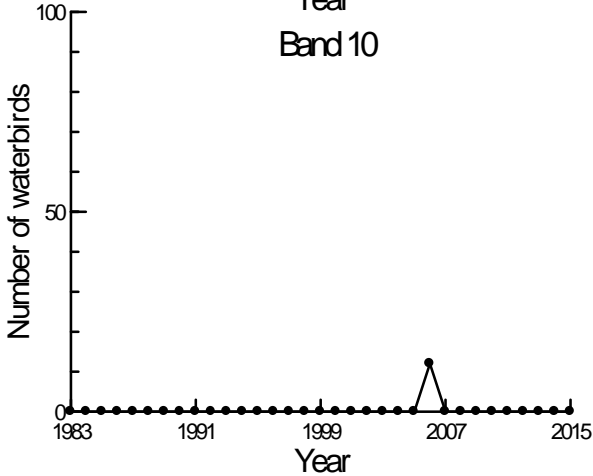
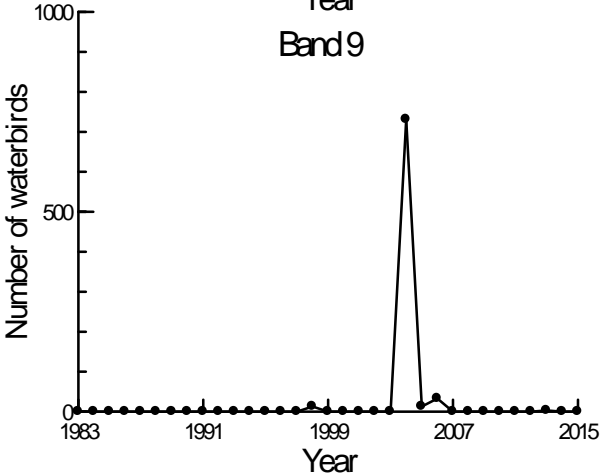
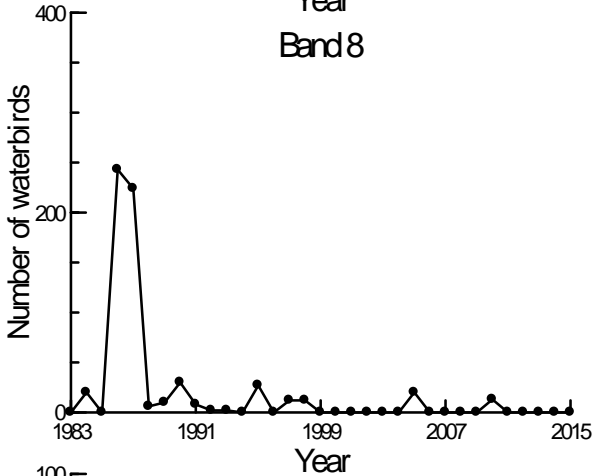
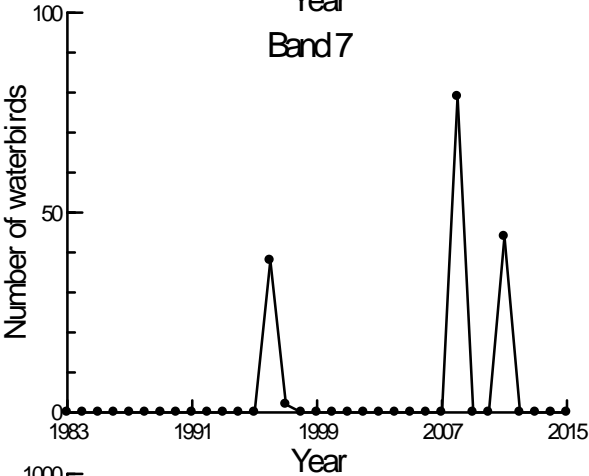
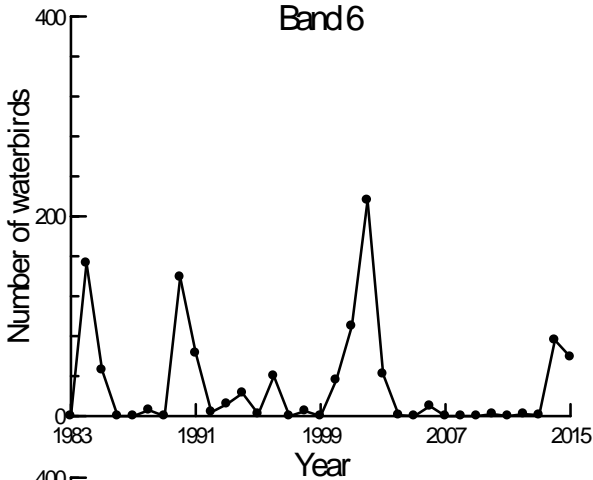
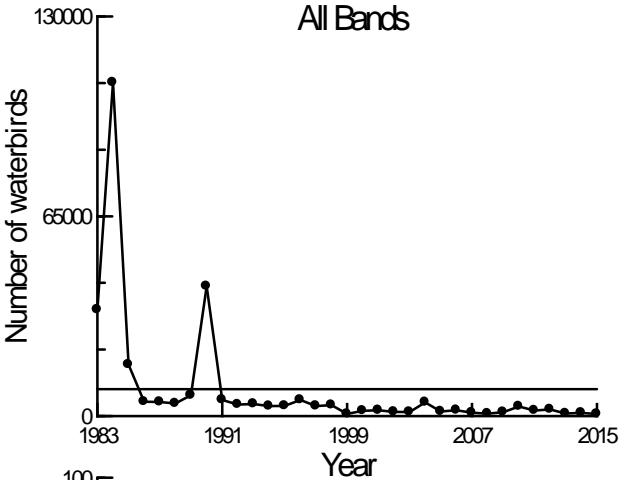
Scales vary on graphs – dashed line indicates long term average

Figure 22. Australian shelduck Bands 1-5



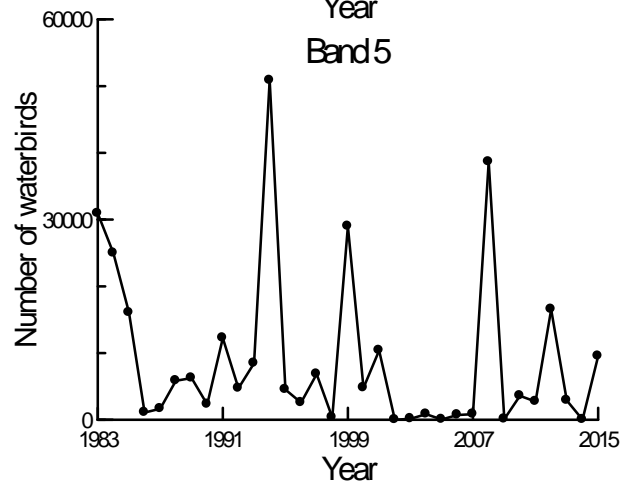
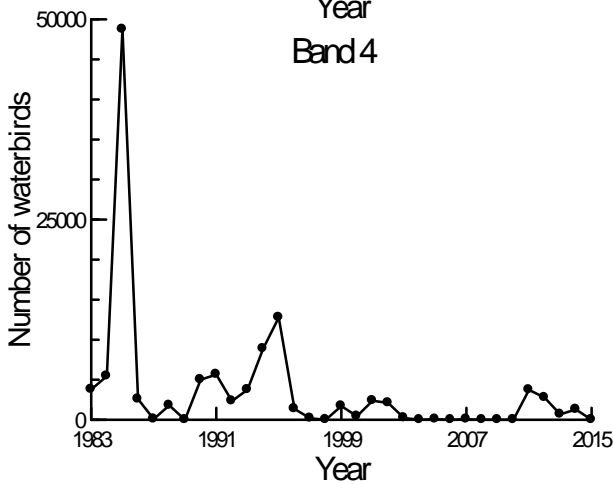
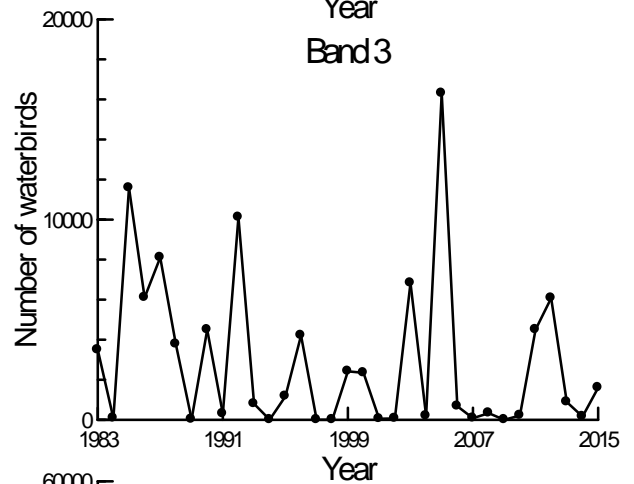
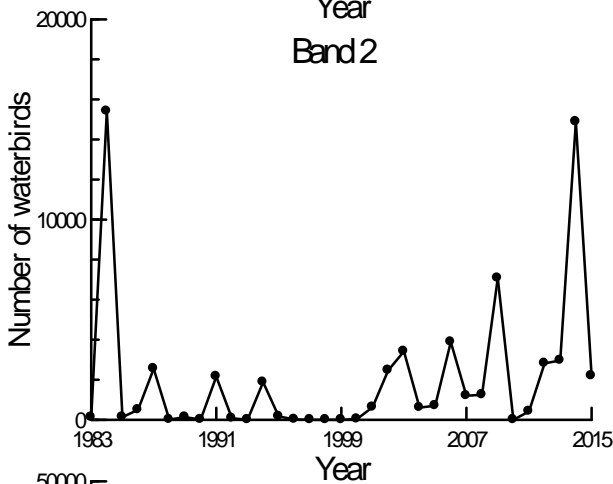
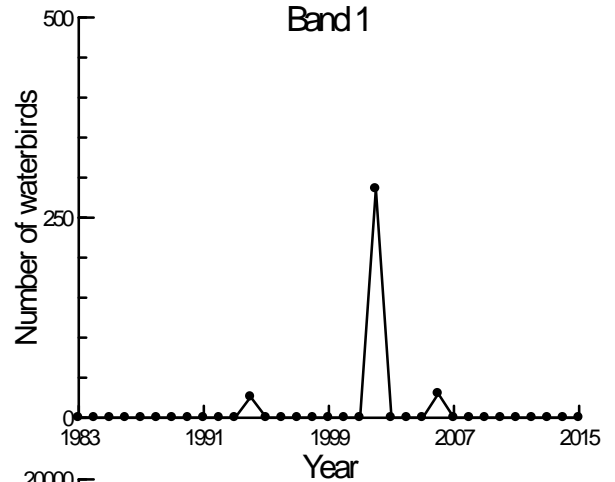
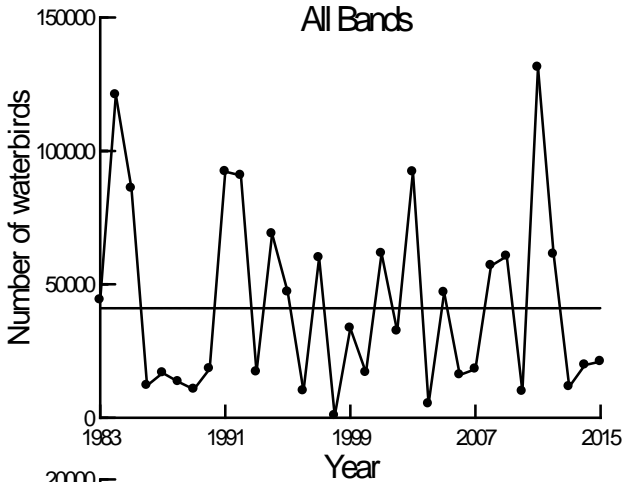
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Figure 23. Australian shelduck Bands 6-10



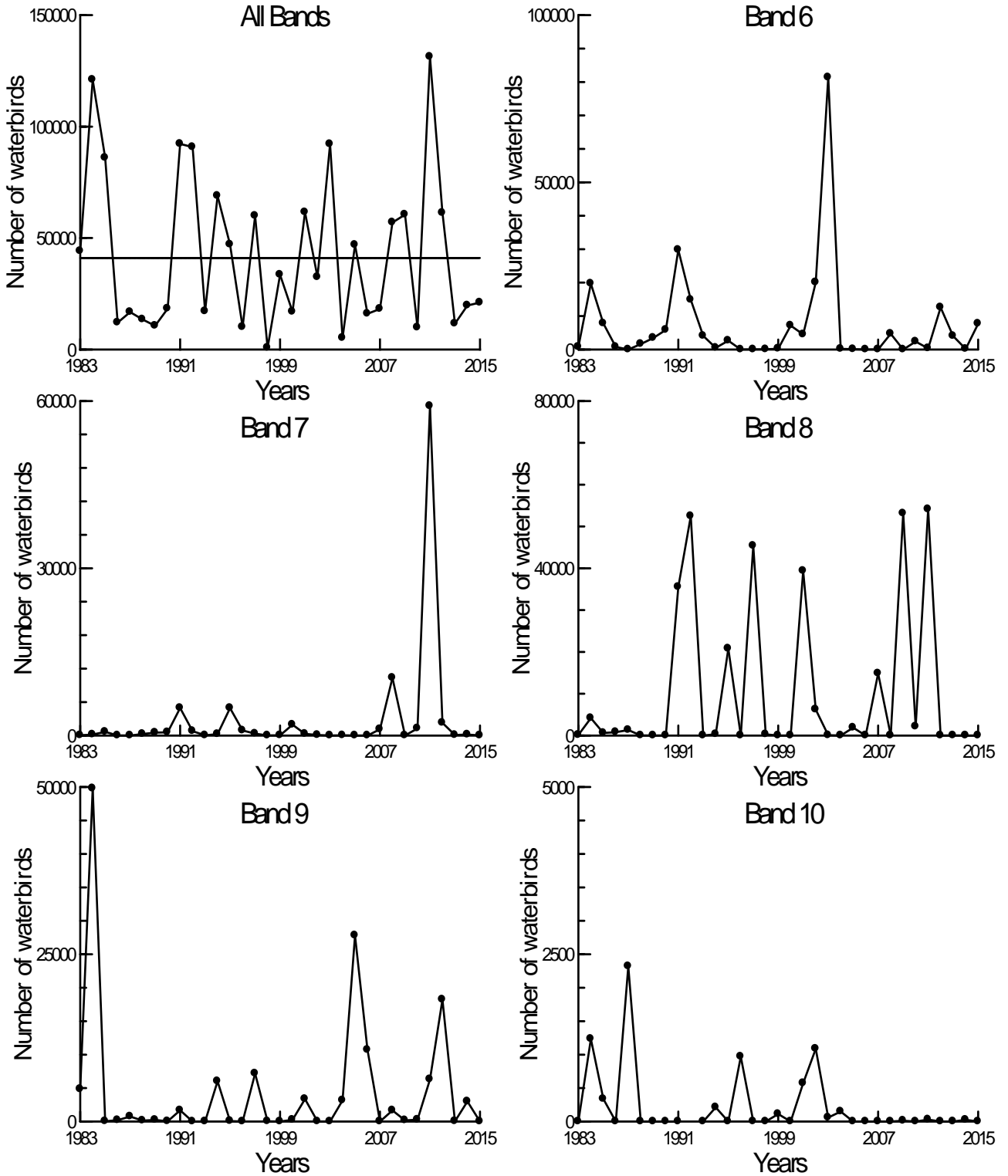
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Figure 24. Pink-eared duck Bands 1-5



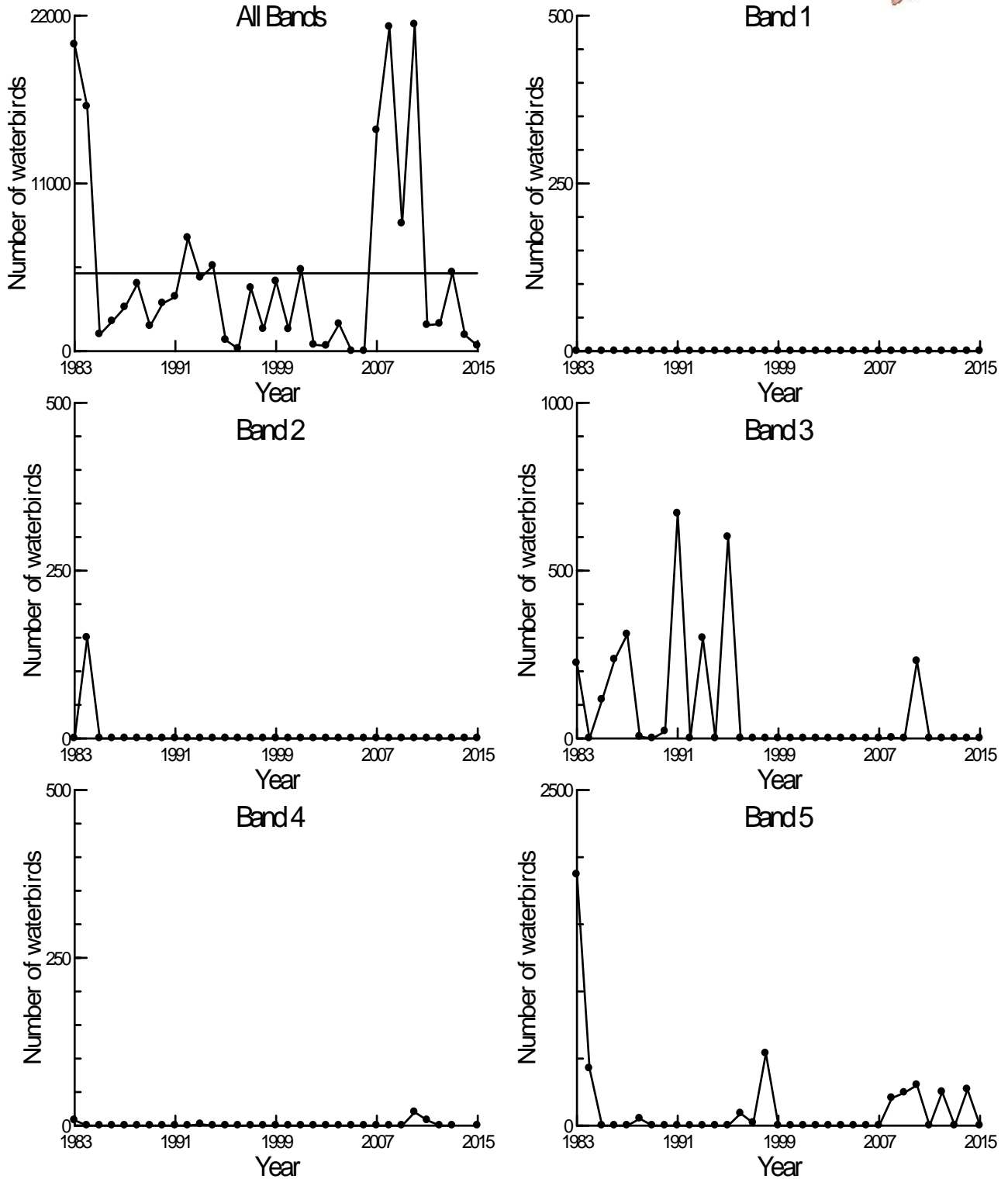
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Figure 25. Pink-eared duck Bands 6-10



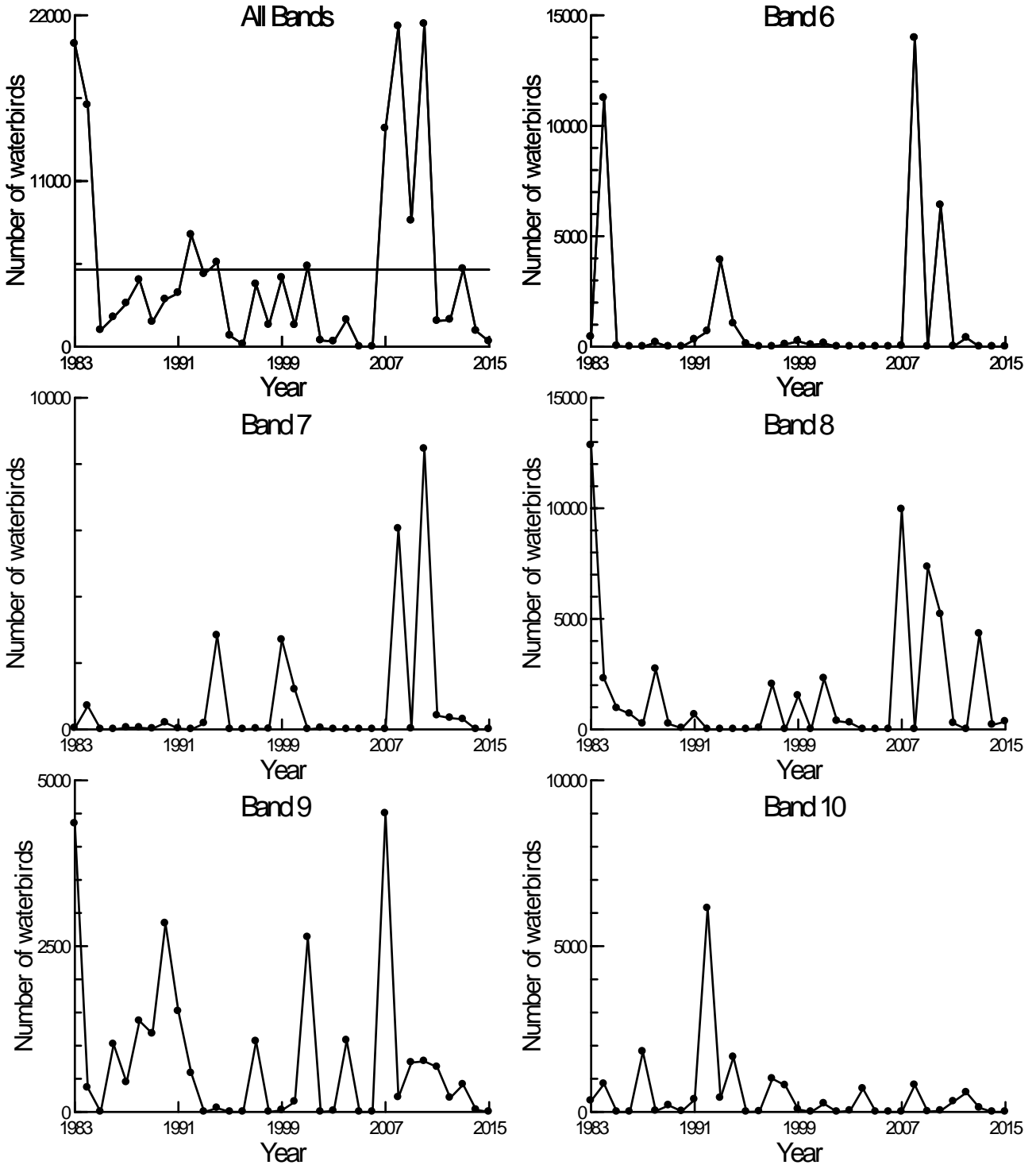
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Figure 26. Plumed whistling-duck Bands 1-5



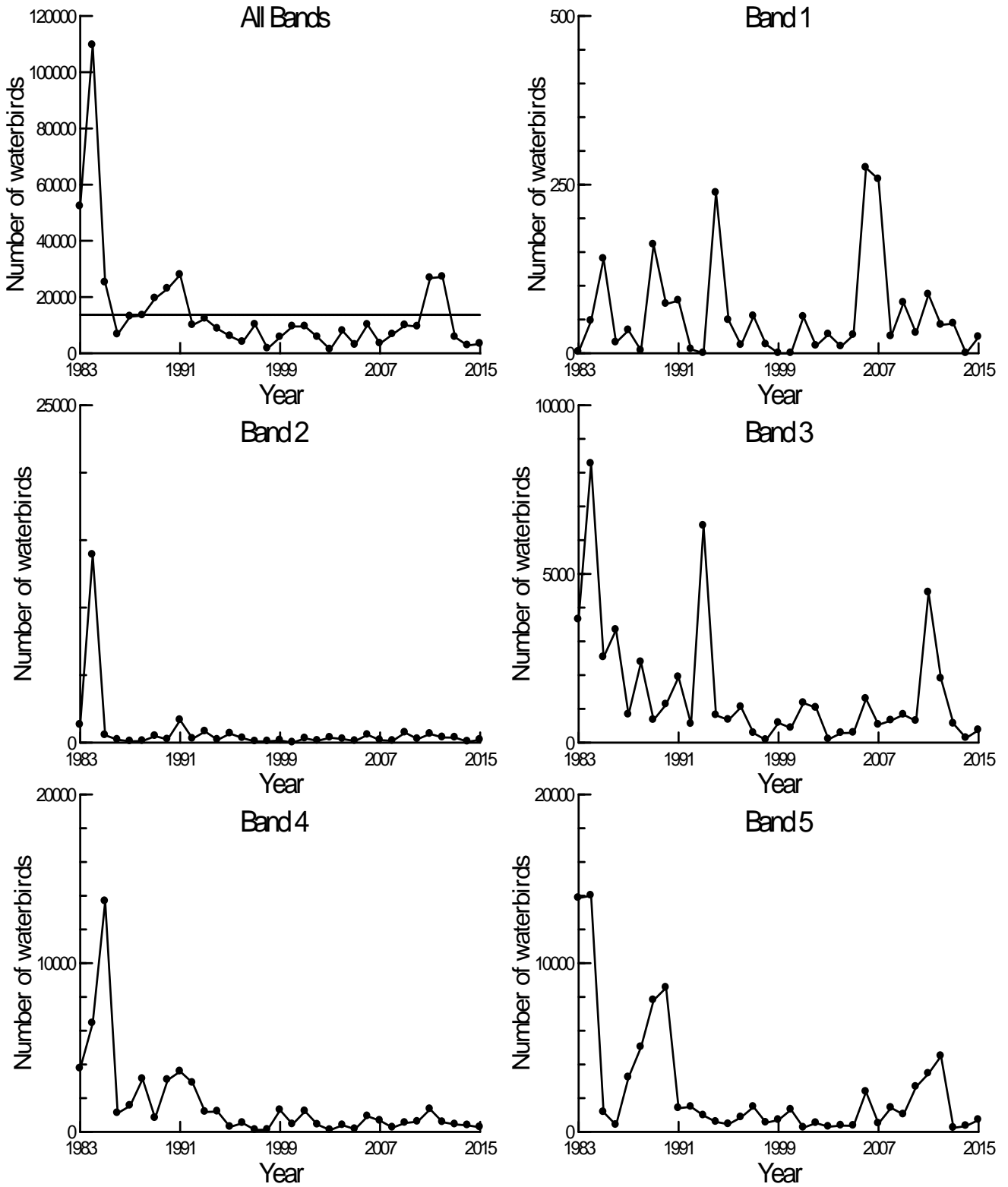
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Figure 27. Plumed whistling-duck Bands 6-10



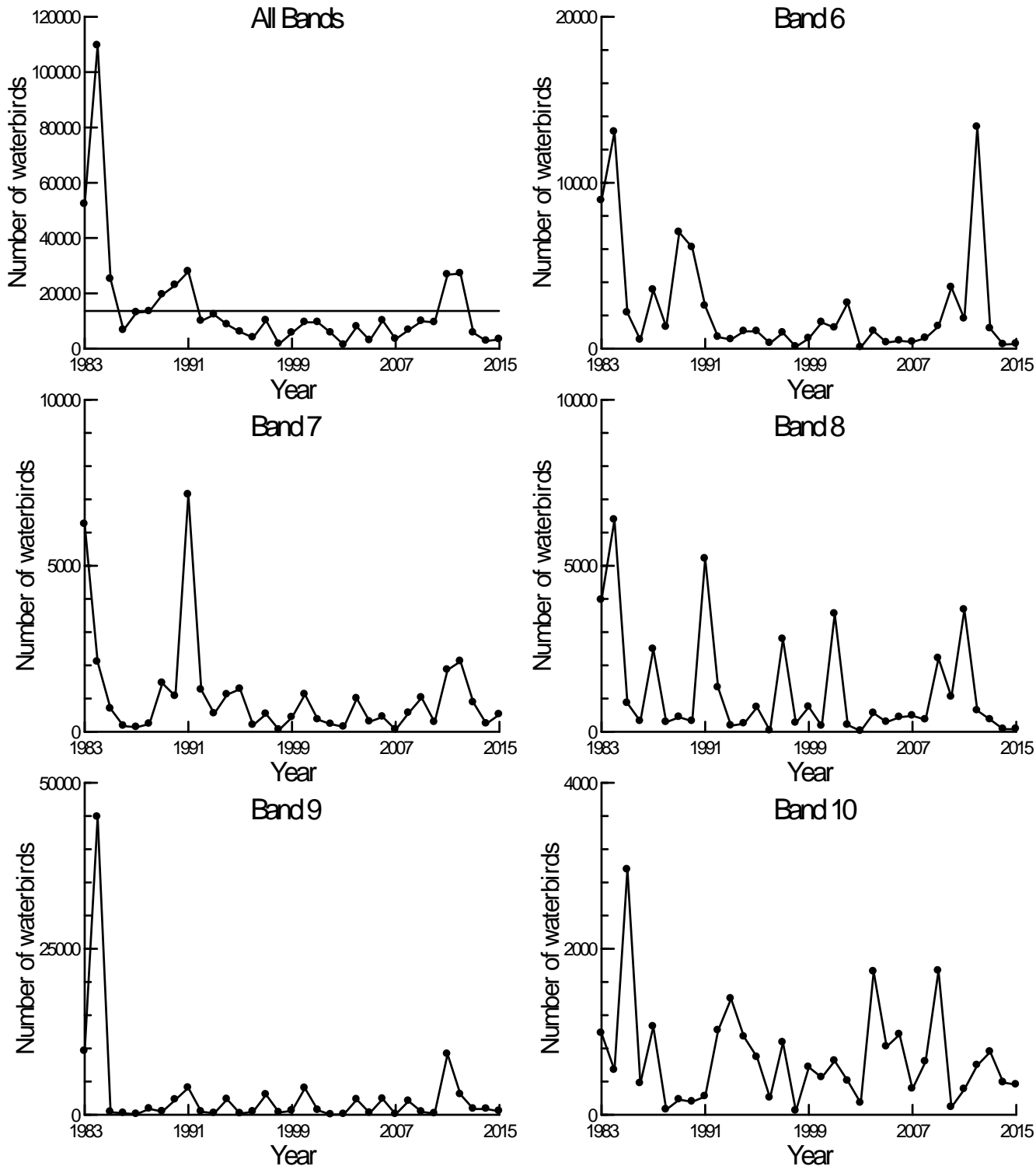
Scales vary on graphs – dashed line indicates long term average

Figure 28. Australian wood duck Bands 1-5



Scales vary on graphs – dashed line indicates long term average

Figure 29. Australian wood duck Bands 6-10



Scales vary on graphs – dashed line indicates long term average