



## **Aerial Survey of Wetland Birds in Eastern Australia - October 2009 Annual Summary Report**

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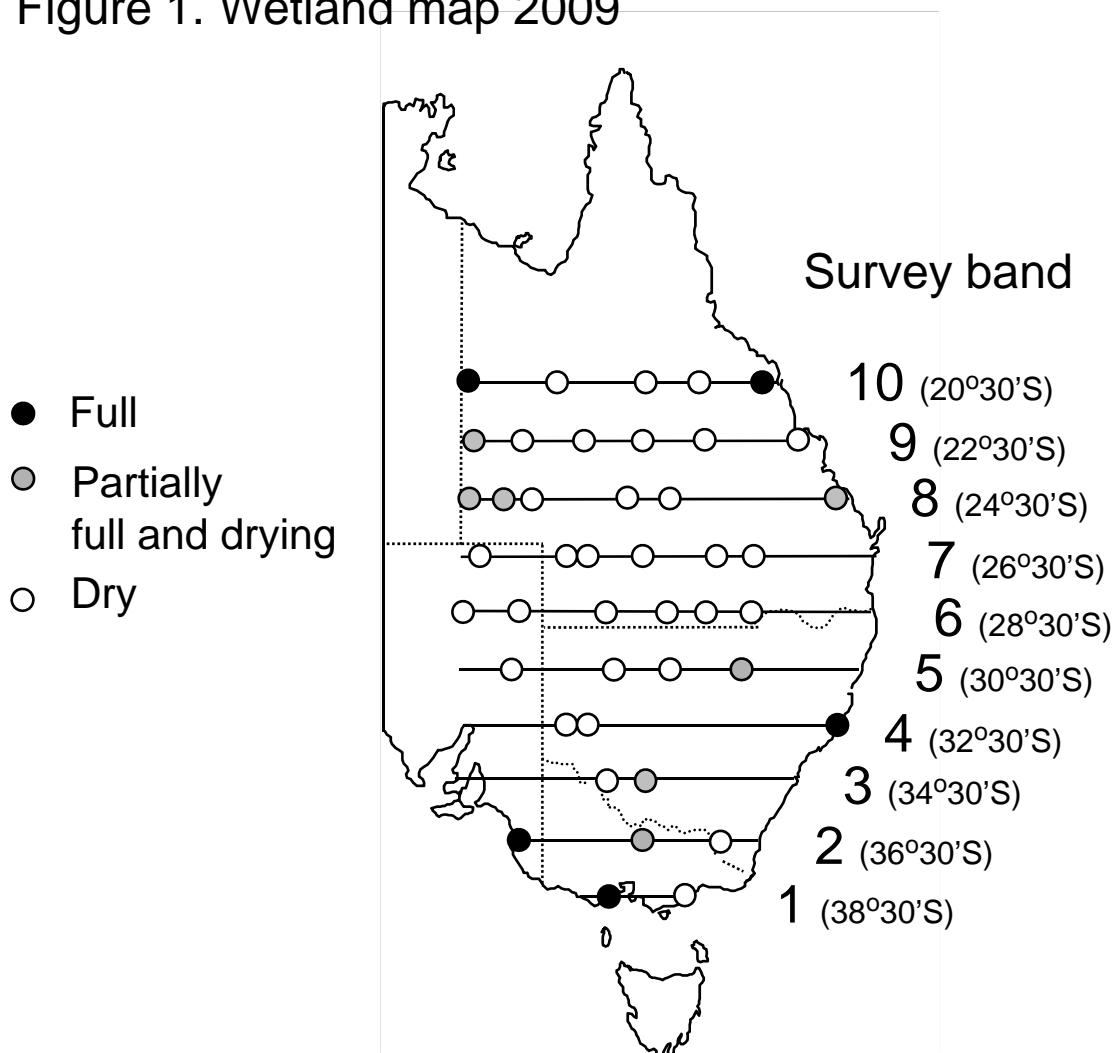
### **Results summary**

1. The survey region experienced significant flooding in the Diamantina and Georgina river systems in northern Queensland in January 2009, which resulted in partial filling of Lake Eyre and northern wetlands. However, most of the flood waters in the survey bands had dried by October. In the southern and central survey region severe drought continued to affect wetlands, floodplains and rivers. Southern and central Queensland, southern and western New South Wales, most of Victoria and south eastern South Australia were drought affected at the time of surveys
2. Trend analyses indicated continued long term declines in waterbird abundance, wetland area, breeding abundance and breeding species richness. Wetland area and breeding abundance declined in 2009 compared to the previous year while total abundance and breeding species richness increased slightly.
3. The Macquarie Marshes and Lowbidgee wetlands were partially filled by environmental flows. The Paroo overflow lakes, Cuttaburra channels and Menindee Lakes were dry or almost dry. Most rivers in the Murray-Darling Basin were also low with little water on the floodplains.
4. Lakes Torquinnie and Mumbleberry in northern Queensland held water after flooding in January 2009 and together with nearby Eyre Creek wetlands supported more than 83,000 waterbirds.
5. Total waterbird abundance was below average (Fig. 3) and waterbirds were concentrated on a few wetland systems. Four wetland systems held more than 68% of total abundance: Lakes Torquinnie, Mumbleberry and Eyre Creek (33%, Band 8); Naracoorte wetlands (28%, Band 2); Burdekin River (5%, Band 10) and the Styx River (3%, Band 9) (Fig. 4).

## **Result summary continued**

7. Total breeding index (all species combined) was below average and lower than in the previous year. Breeding was concentrated (80%) in three locations – Lake Mokoan (Band 2), Gippsland in Band 1, and Stanhope in Band 2 (Figs 4-6). Breeding species richness was low, and comprised mainly of three non-game species, Black Swan, White Ibis, and Silver Gull (90%). Few active breeding sites were recorded elsewhere (Figs 7 & 8).
8. Low numbers of waterbirds and breeding were observed on key wetland systems including Lake Galilee, Cooper Creek, Menindee Lakes, Paroo overflow and Cuttaburra channels, extending a sequence of below average years (Figs 5 & 6). A combination of drought and long term cumulative effects of river regulation, continues to impact on wetland availability, waterbird abundance and breeding.
9. Species at or near their lowest recorded numbers in 27 years included: White ibis, Musk duck, Caspian Tern, Pied cormorant and Banded stilt.

Figure 1. Wetland map 2009



### 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

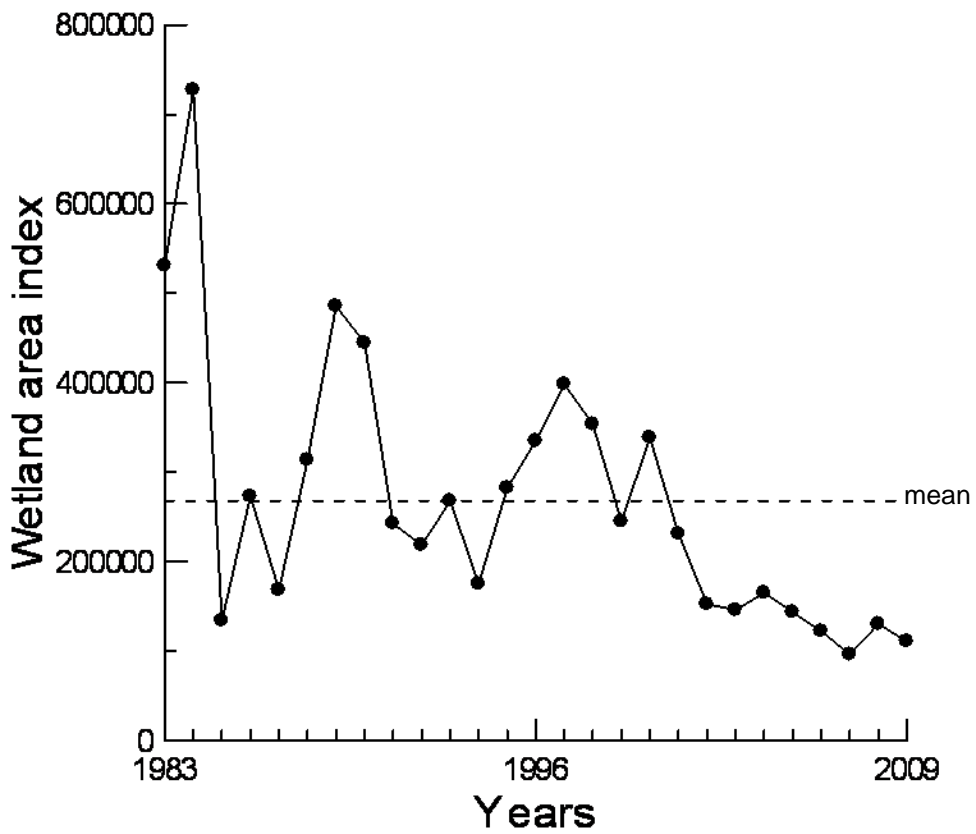


Figure 3. Total waterbirds

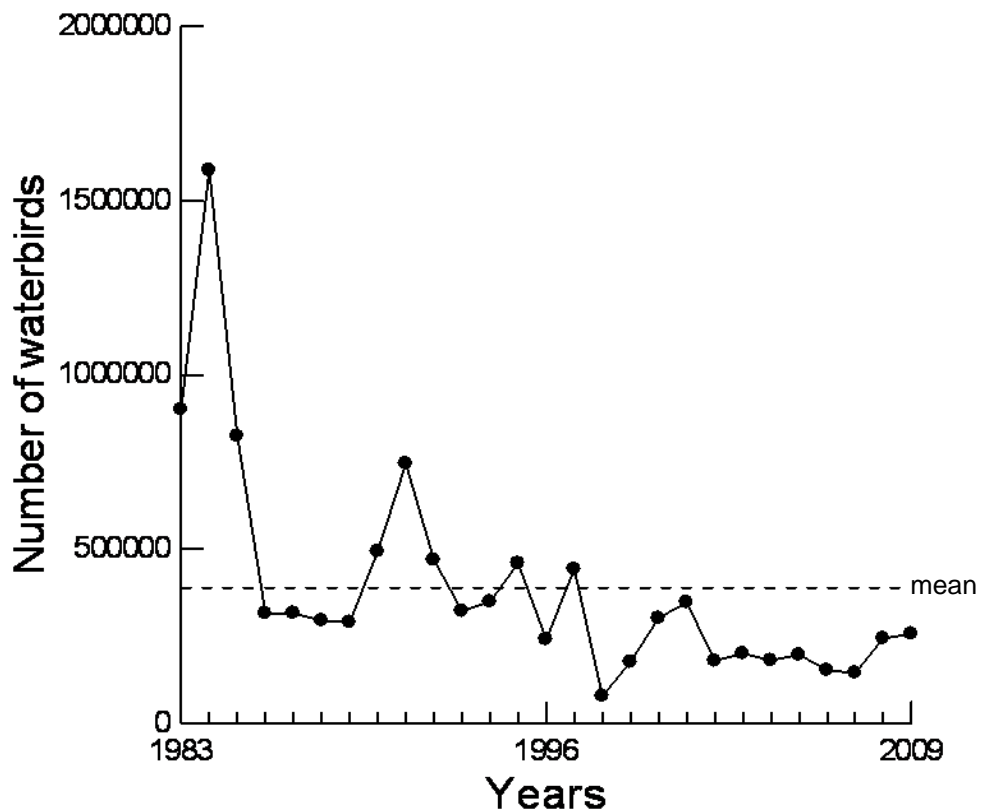
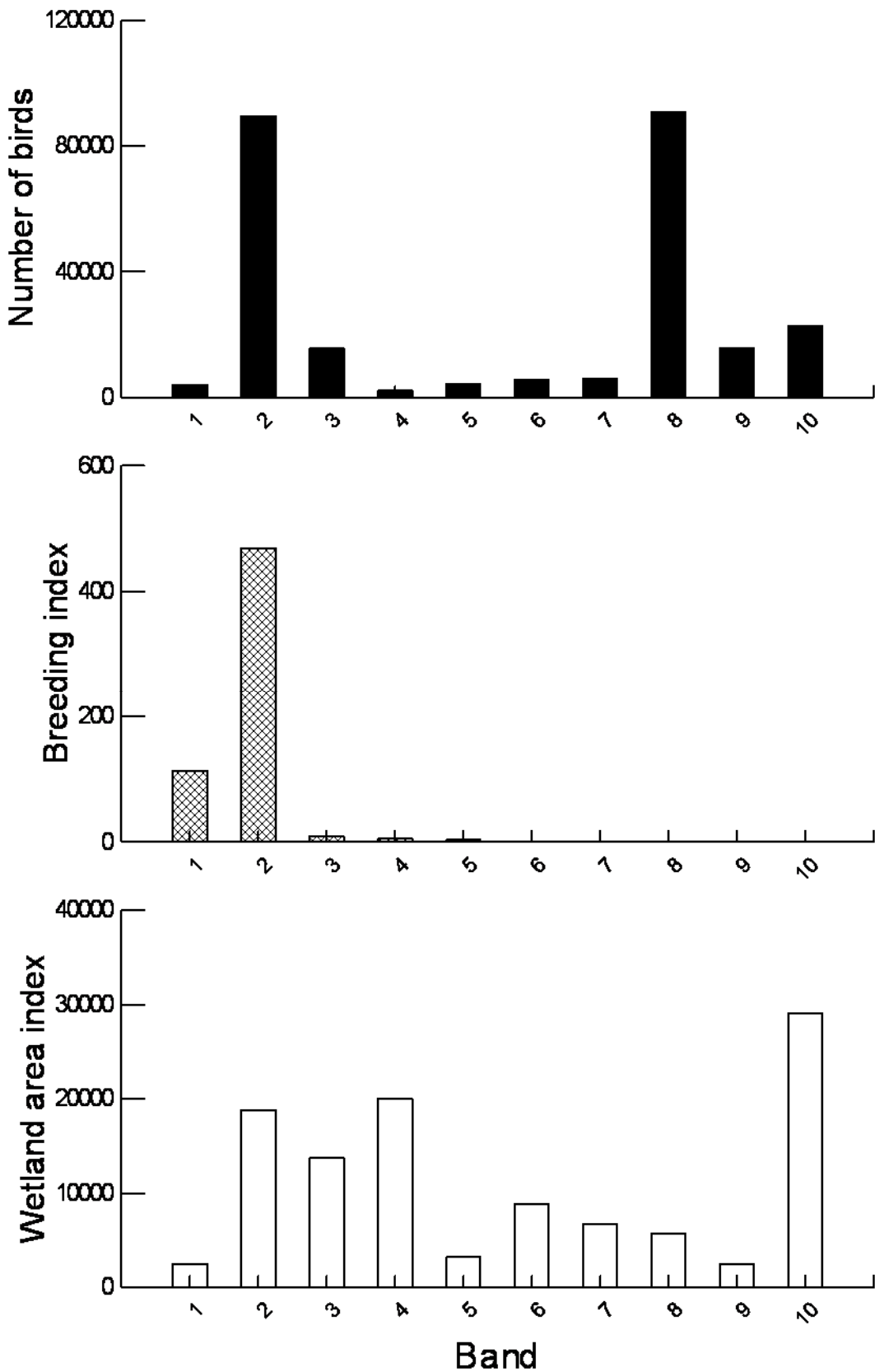


Figure 4. Band totals 2009



Scales vary on graph axes

Figure 5. Breeding index (all species)

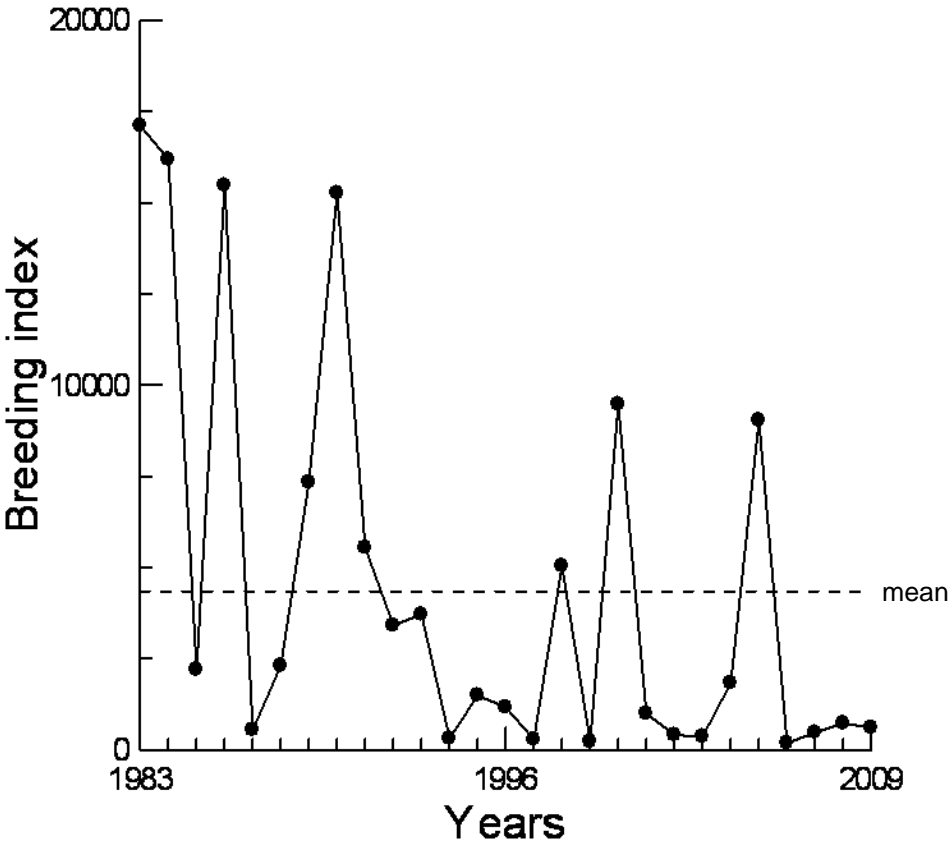
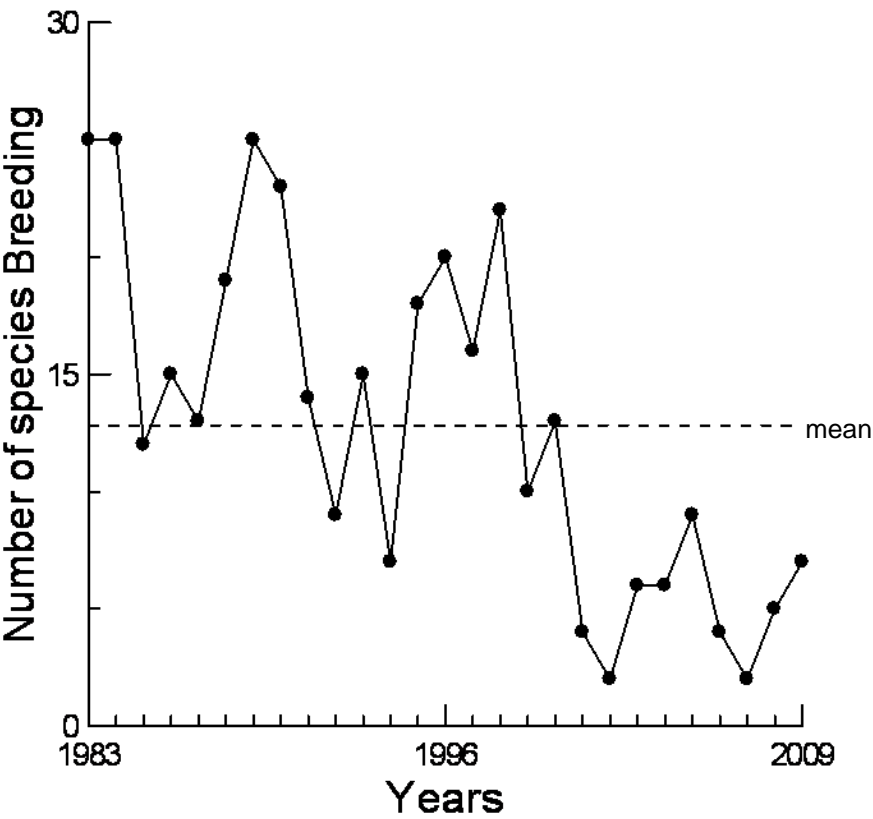
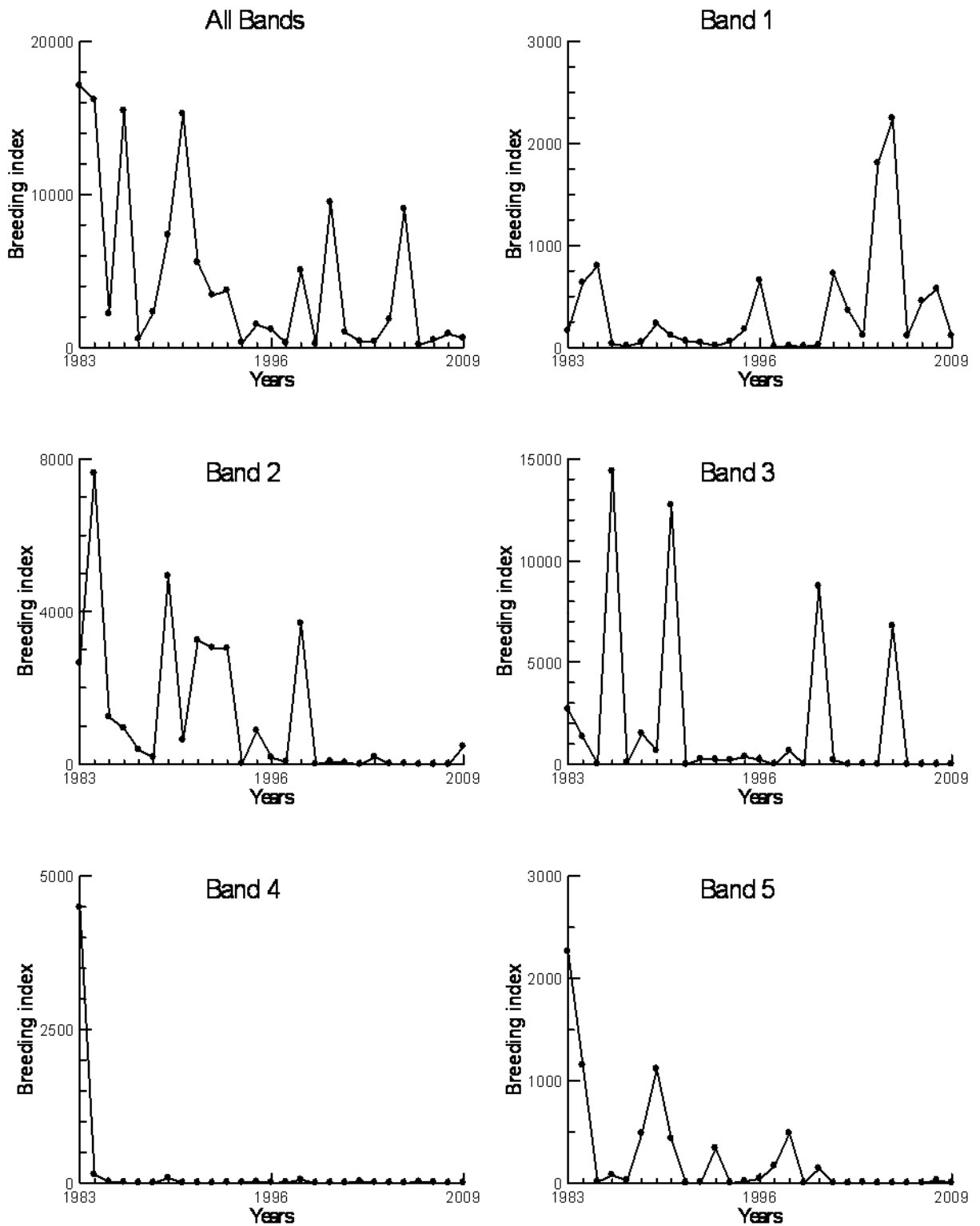


Figure 6. Number of species breeding



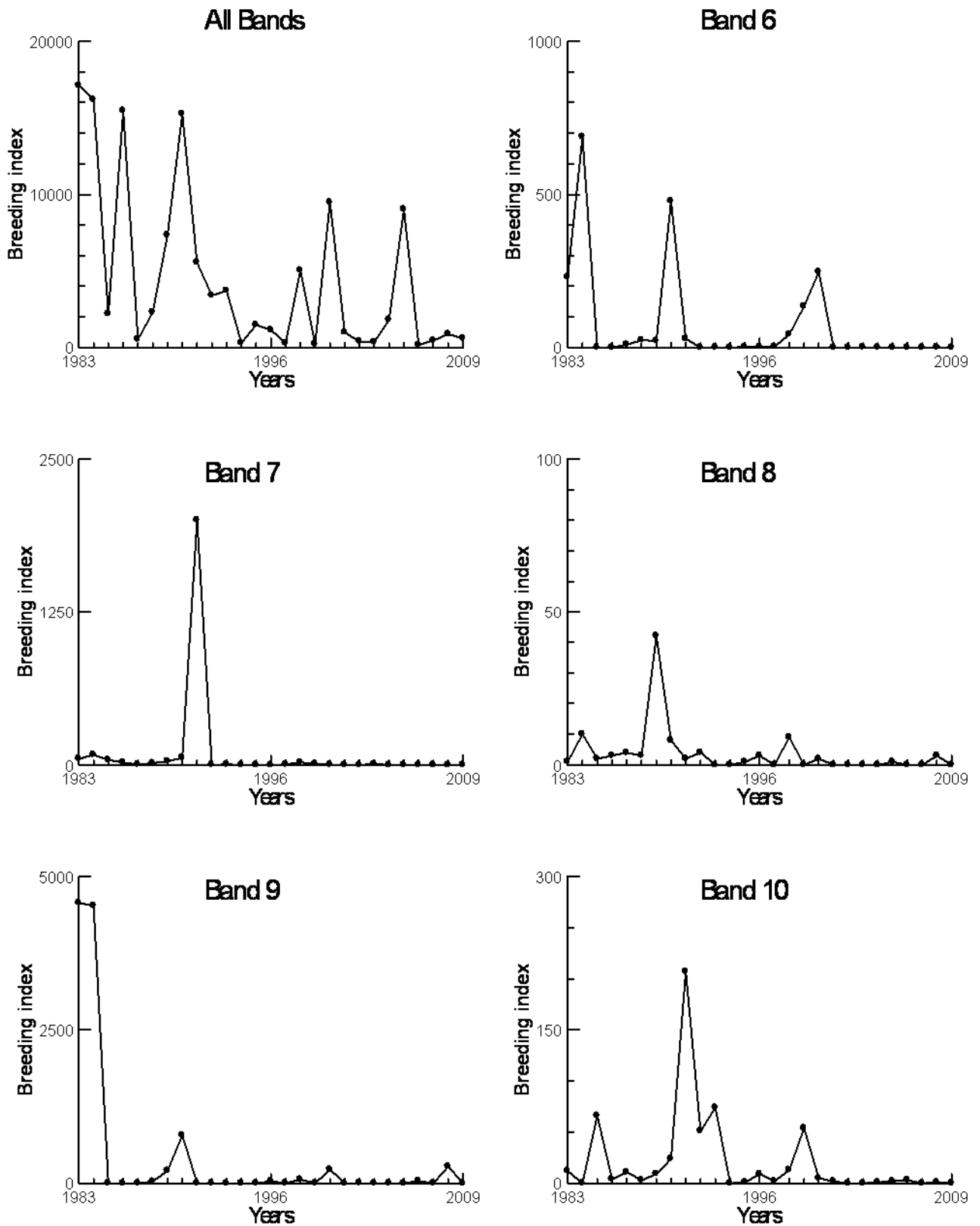
Scales vary on graph axes

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



Scales vary on graphs

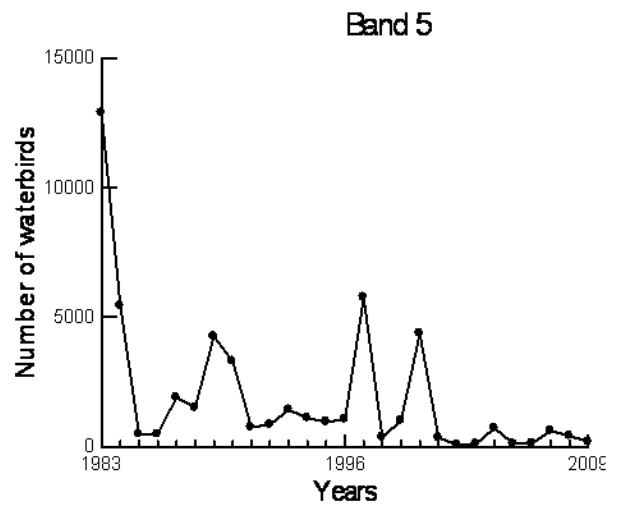
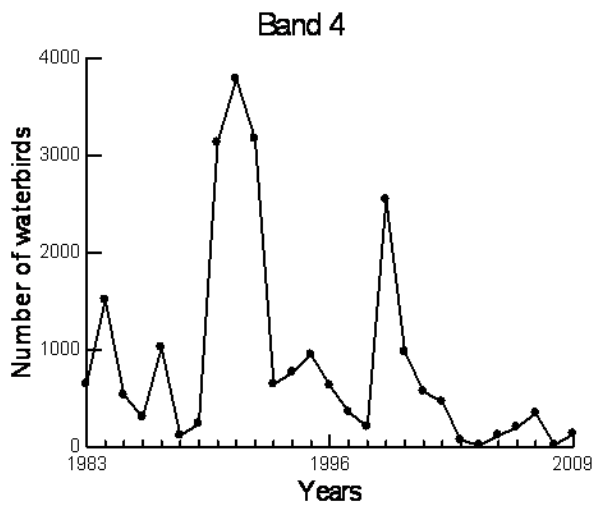
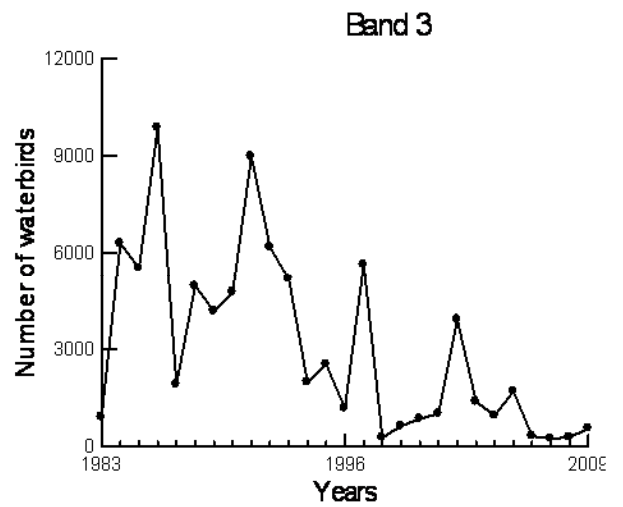
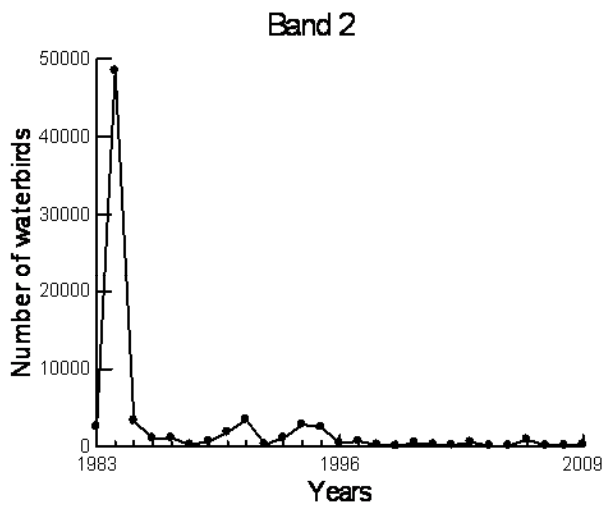
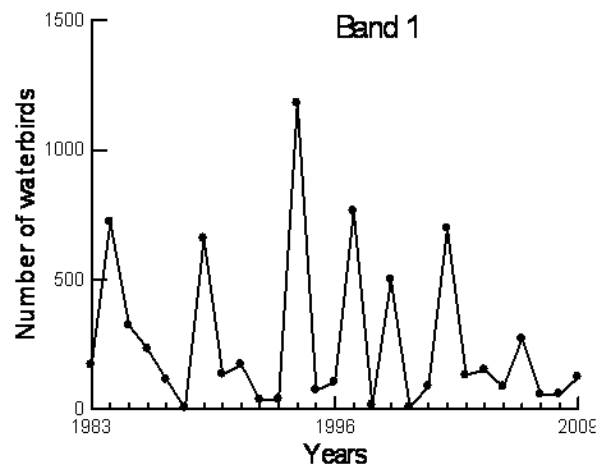
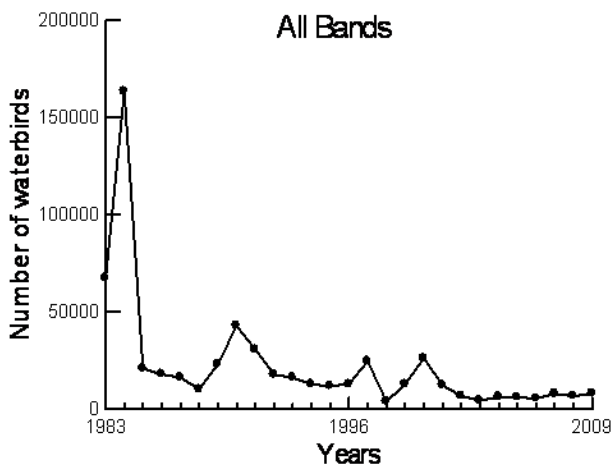
Figure 8. Breeding index 6-10



Scales vary on graphs

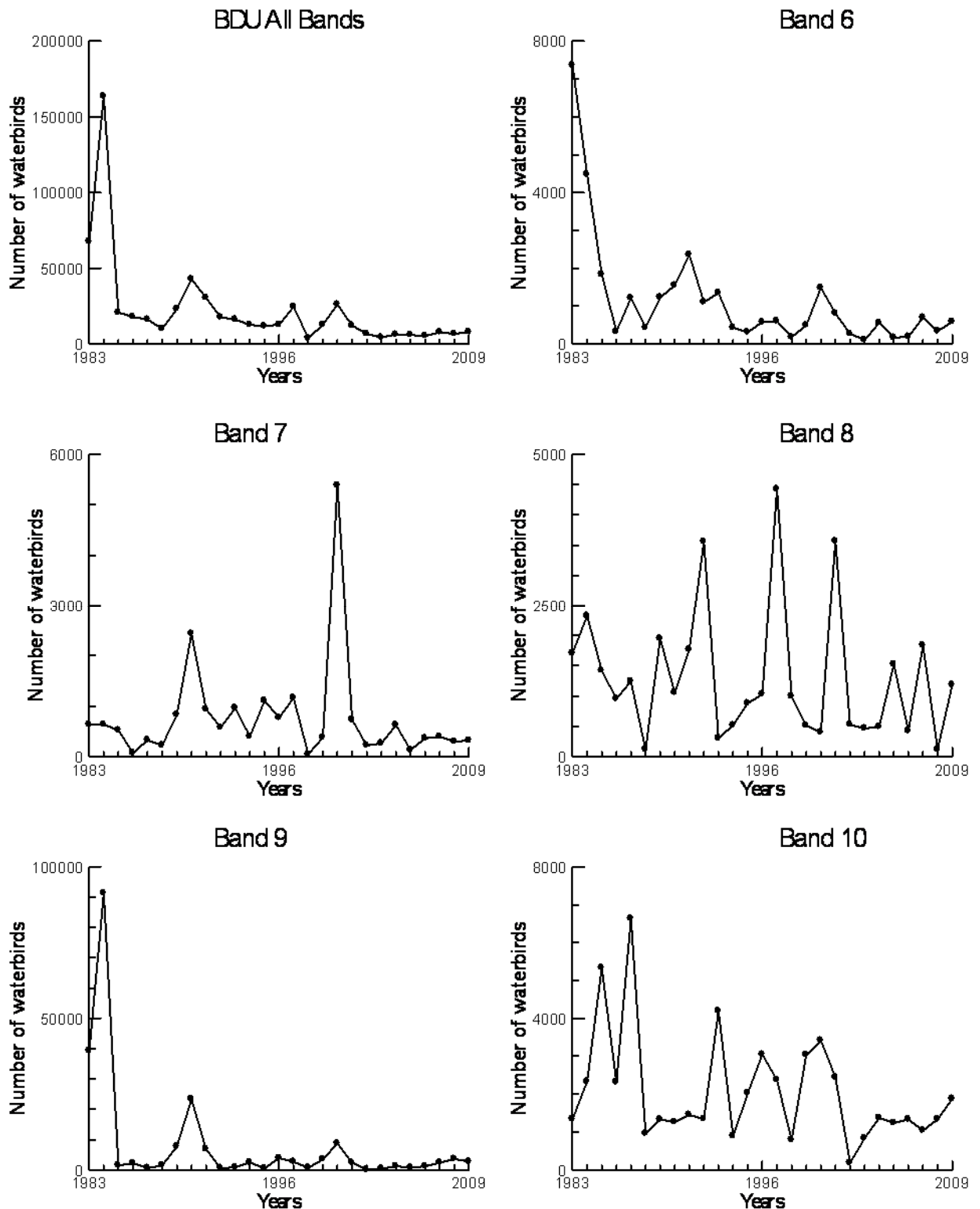


Figure 9. Pacific black duck 1-5



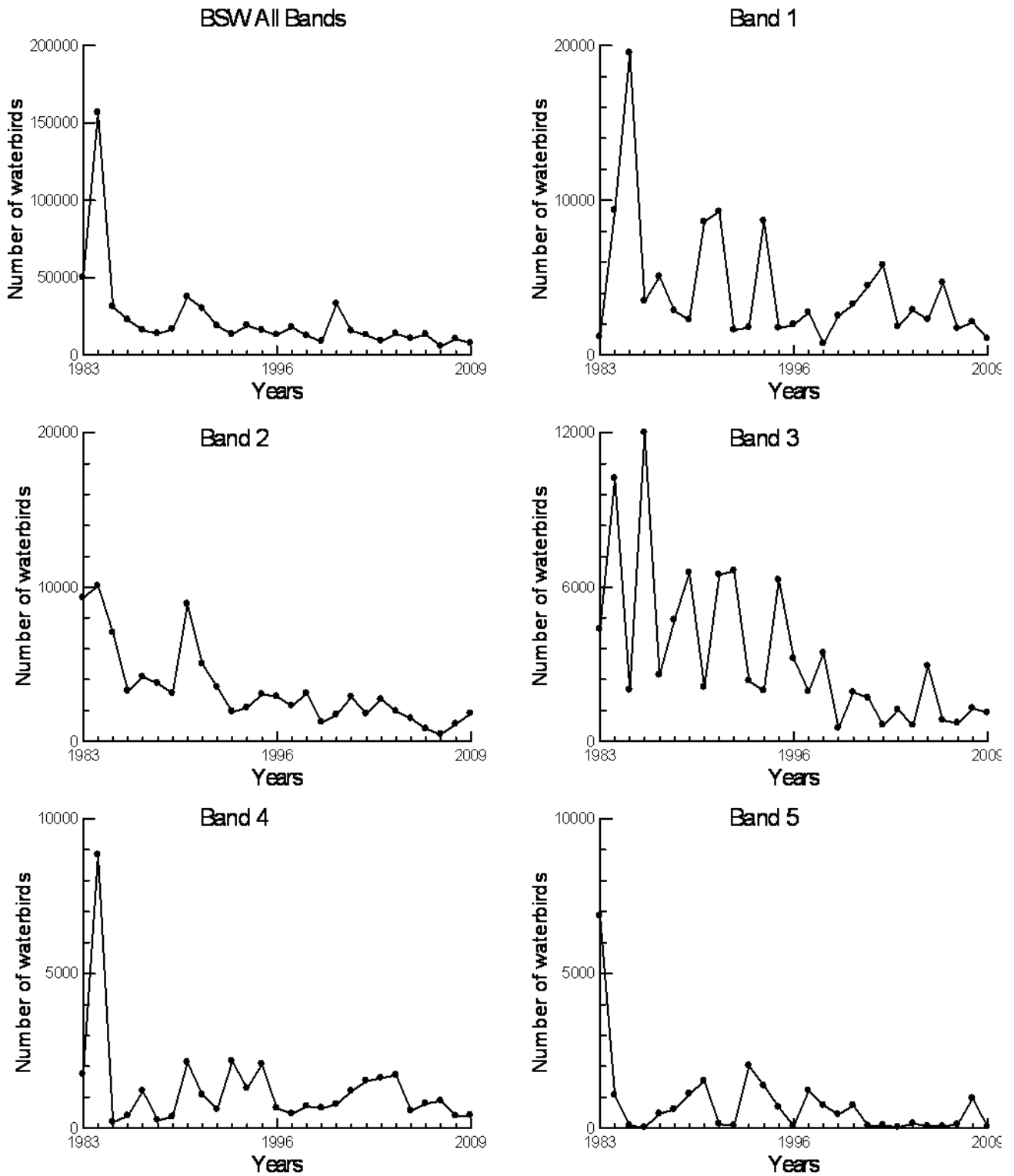
Scales vary on graphs

Figure 10. Pacific black duck 6-10



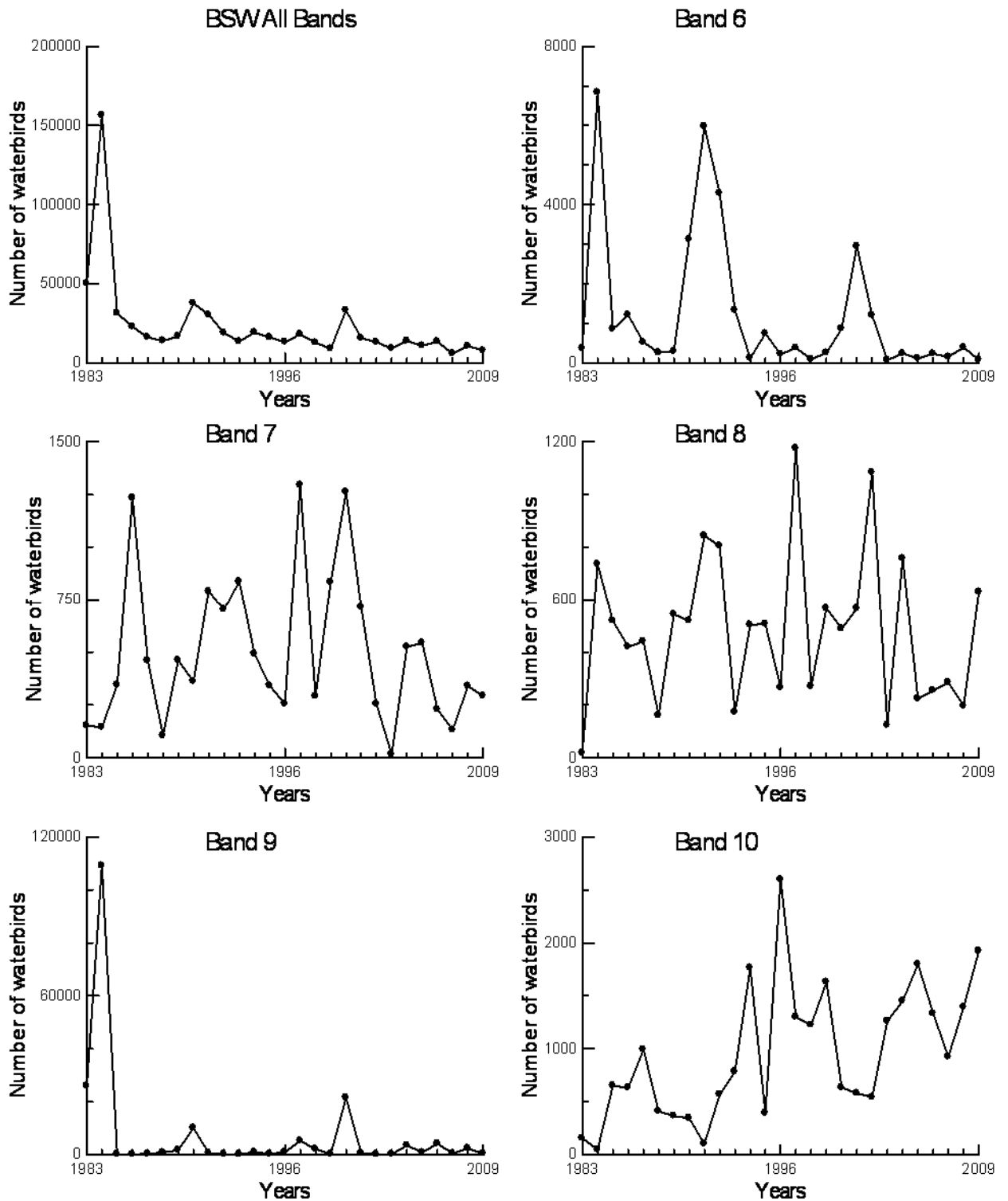
Scales vary on graphs

Figure 11. Black swan 1-5



Scales vary on graphs

Figure 12. Black swan 6-10



Scales vary on graphs

Figure 13. Australasian shoveler 1-5

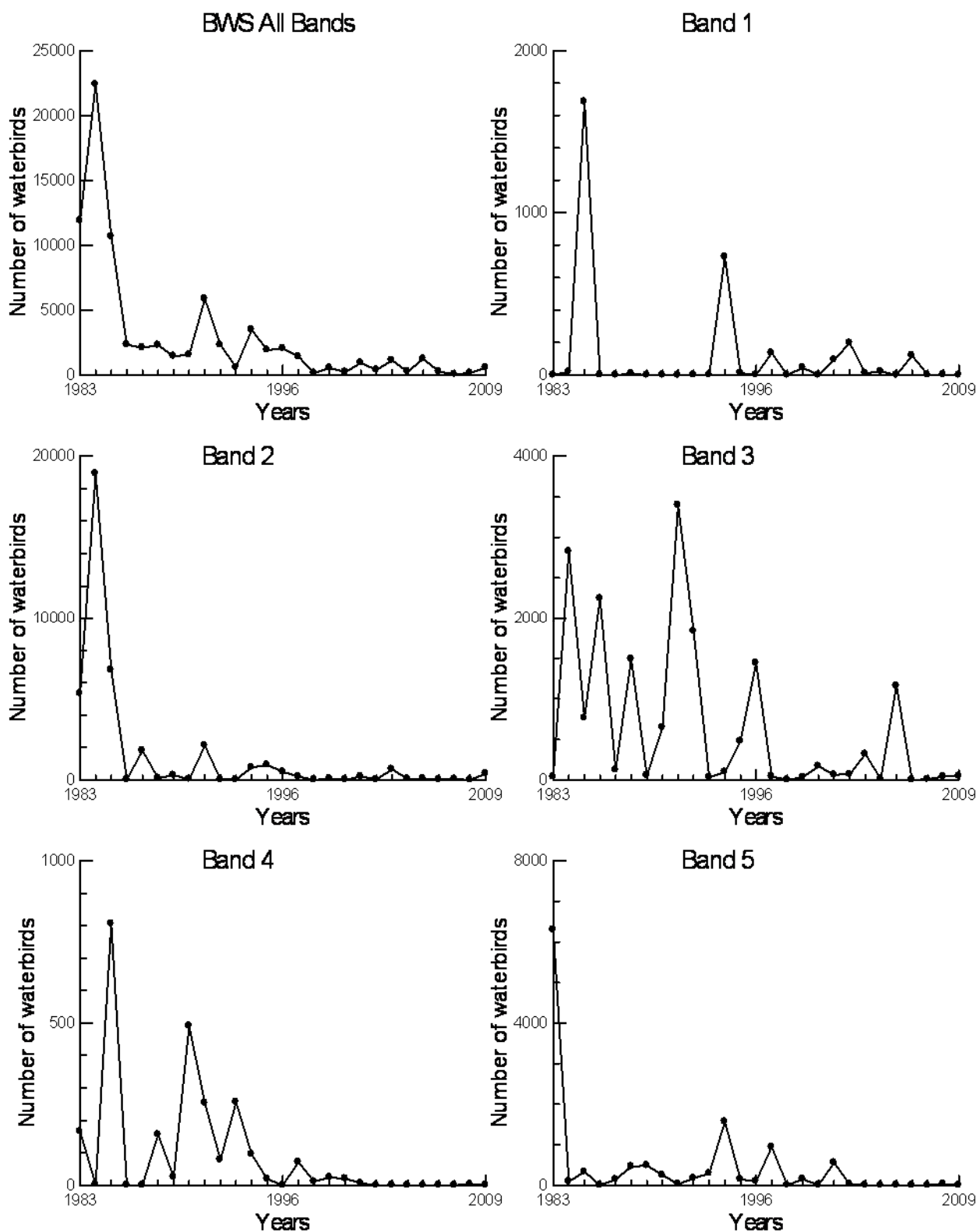
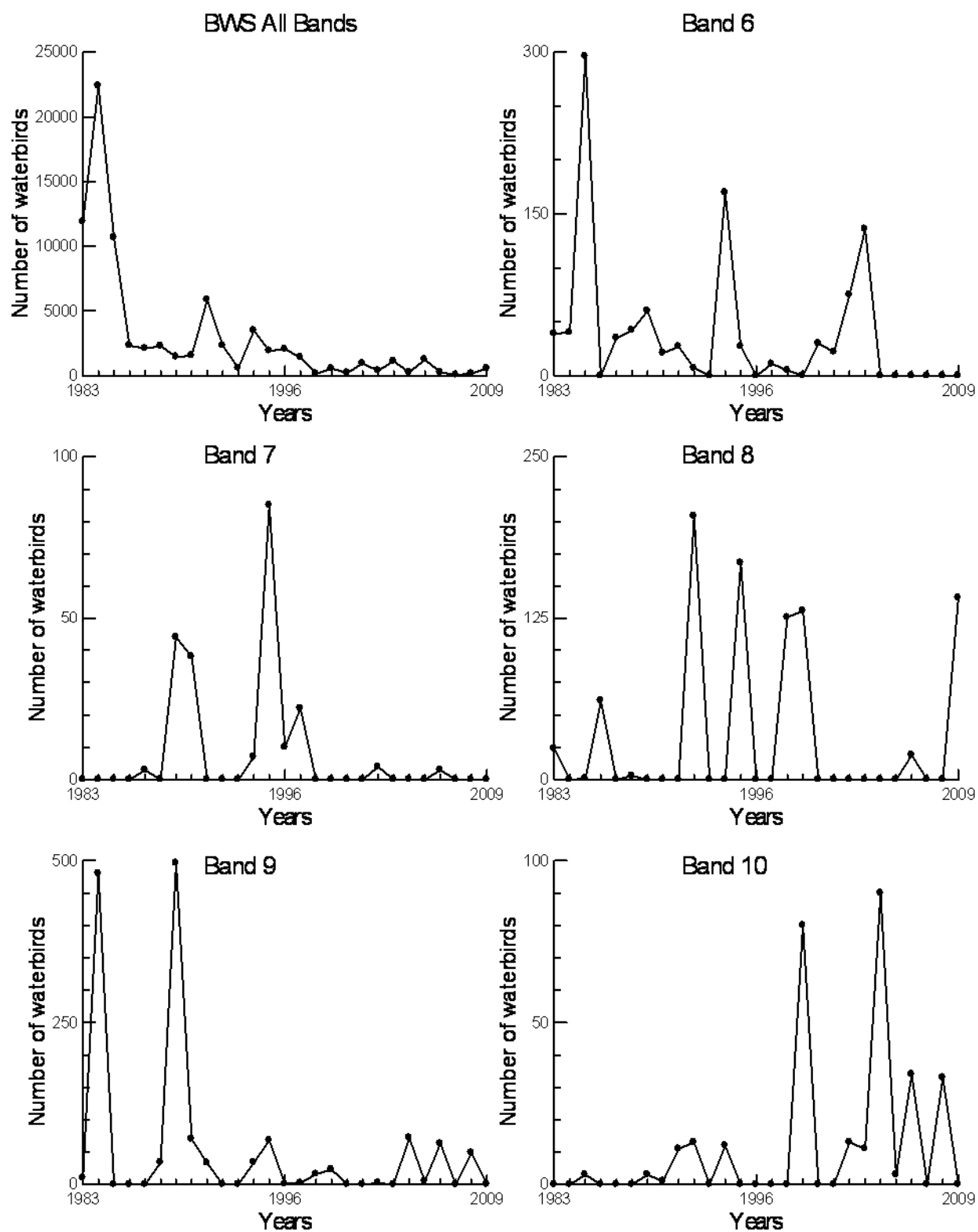
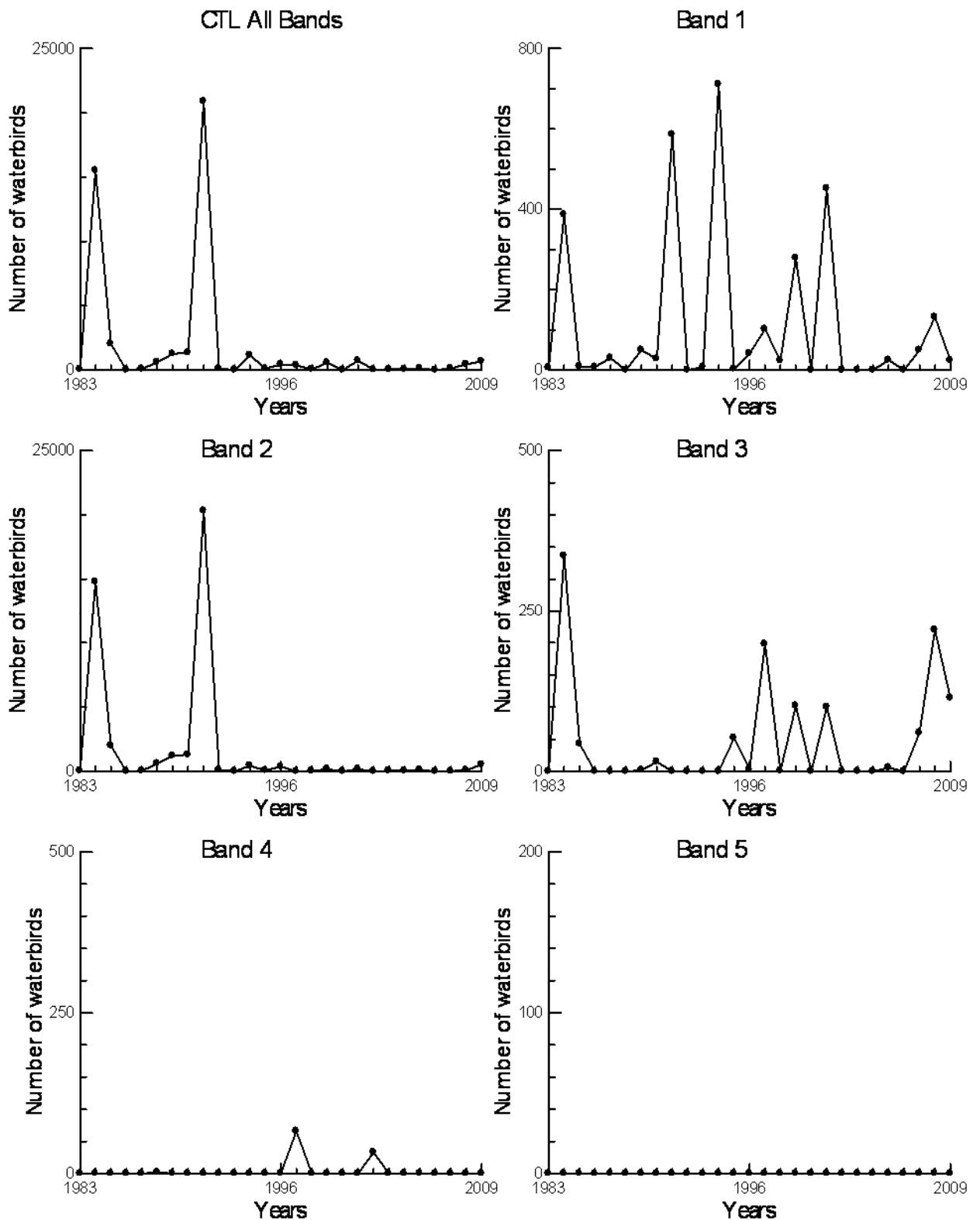


Figure 14. Australasian shoveler 6-10



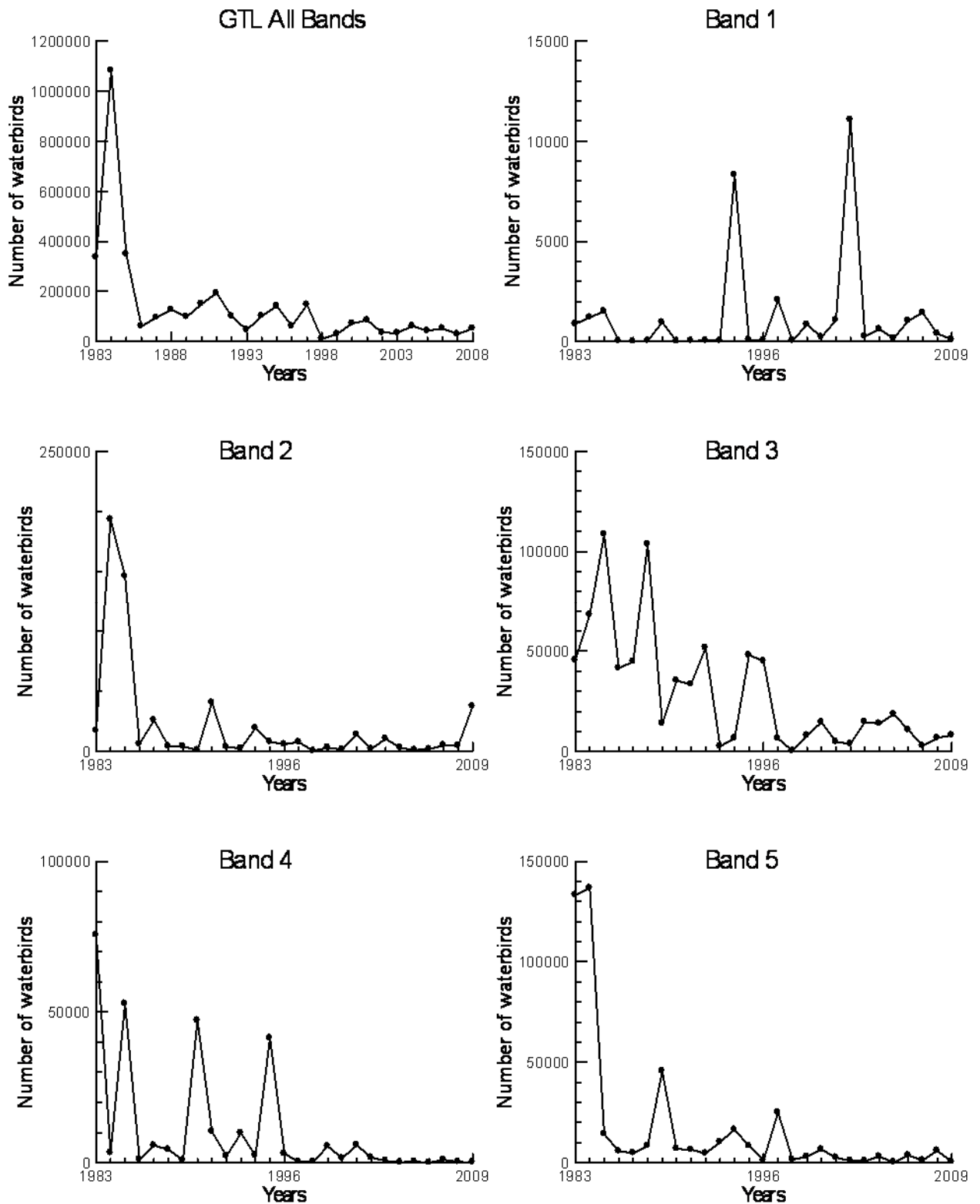
Scales vary on graphs

Figure 15. Chestnut teal 1-5



Scales vary on graphs

Figure 16. Grey teal 1-5



Scales vary on graphs



Figure 17. Grey teal 6-10

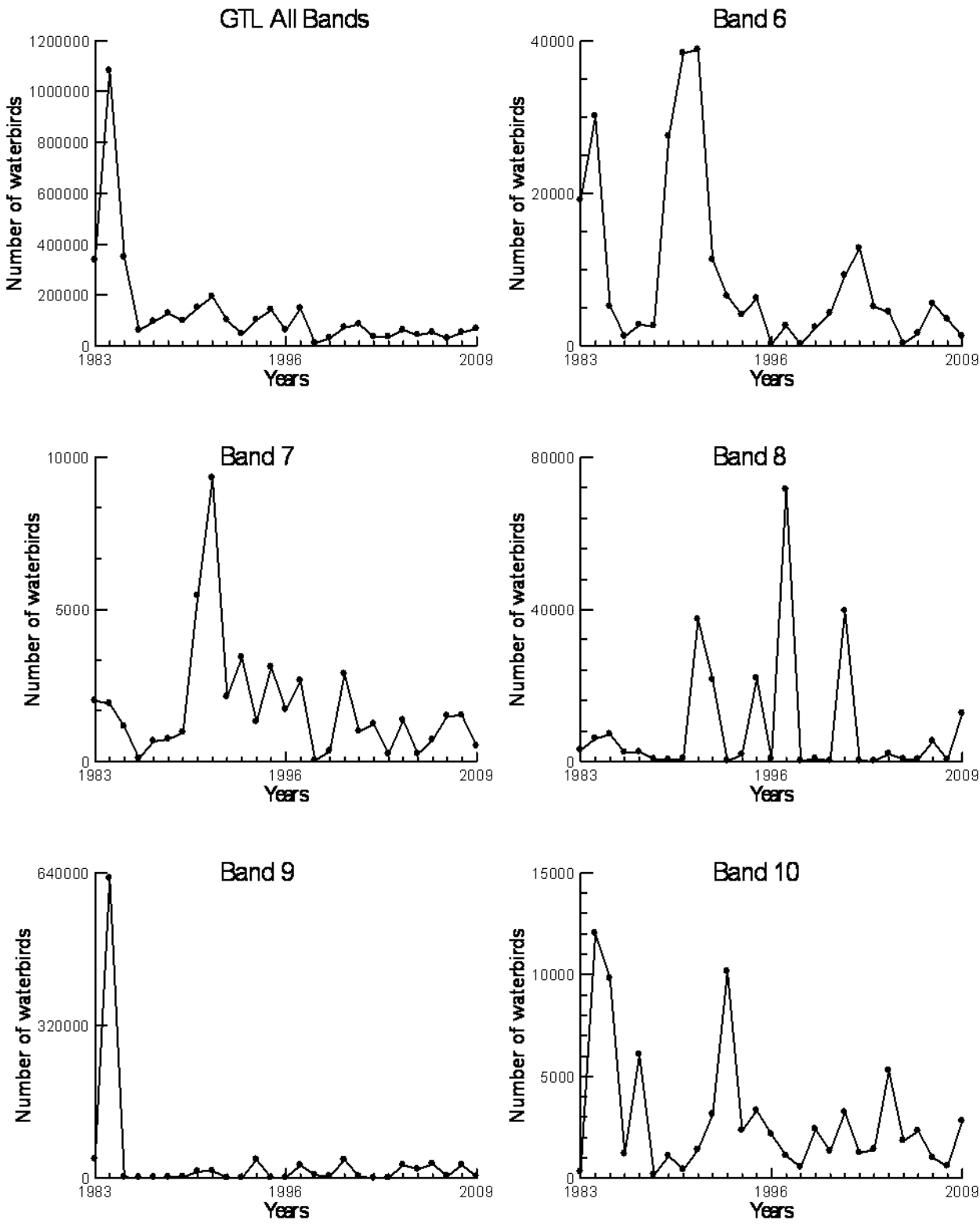
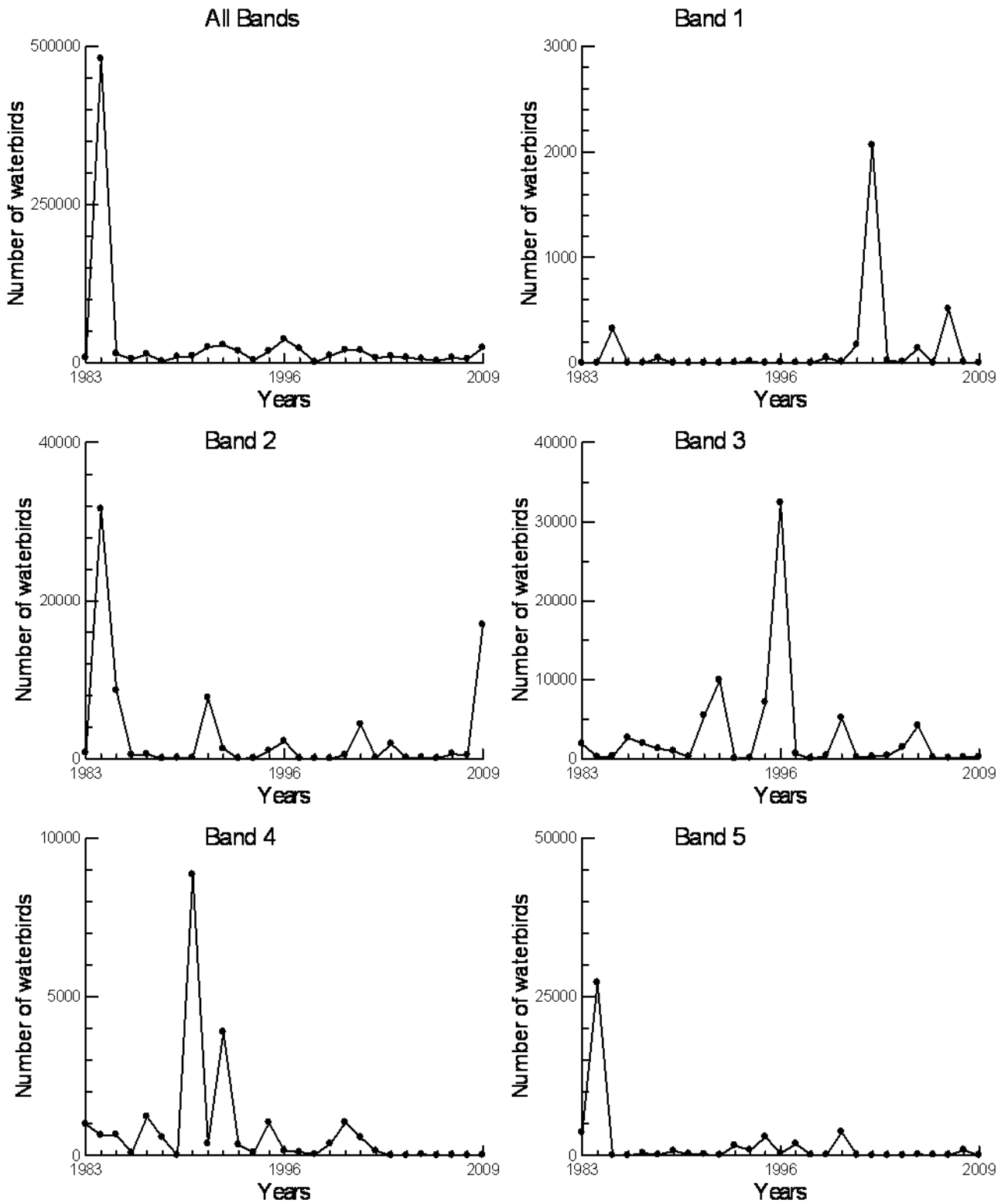
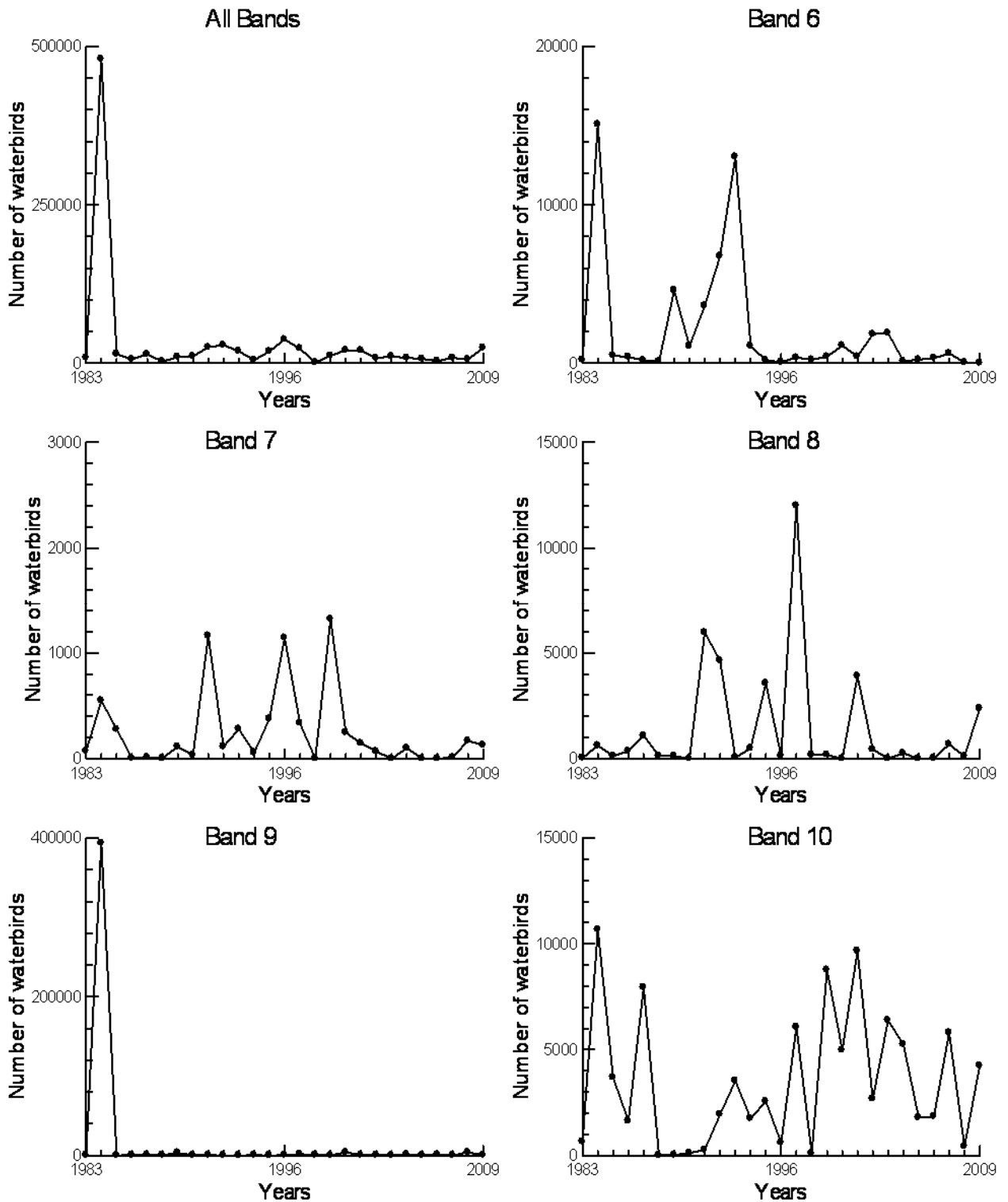


Figure 18. Hardhead 1-5



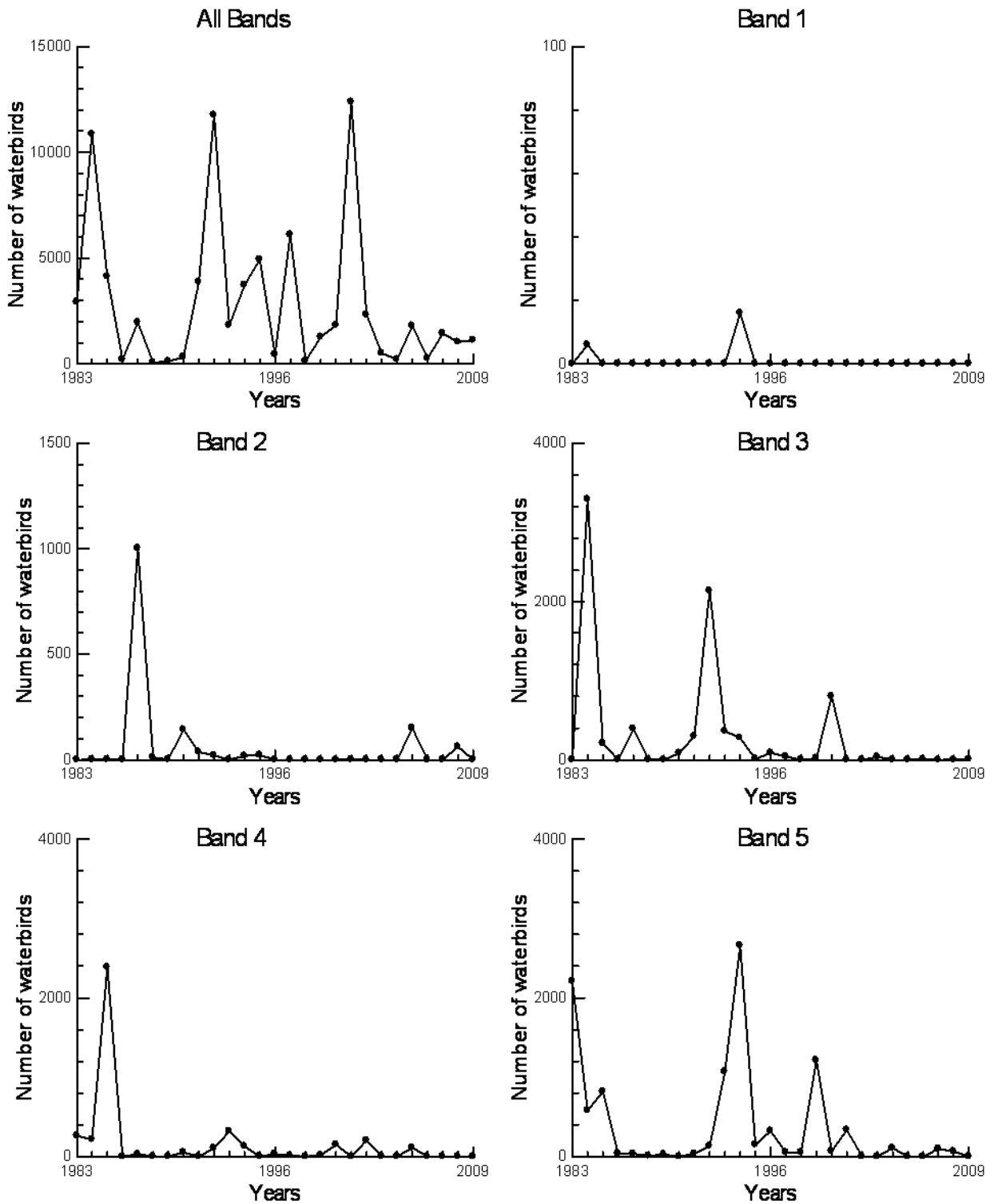
Scales vary on graphs

Figure 19. Hardhead 6-10



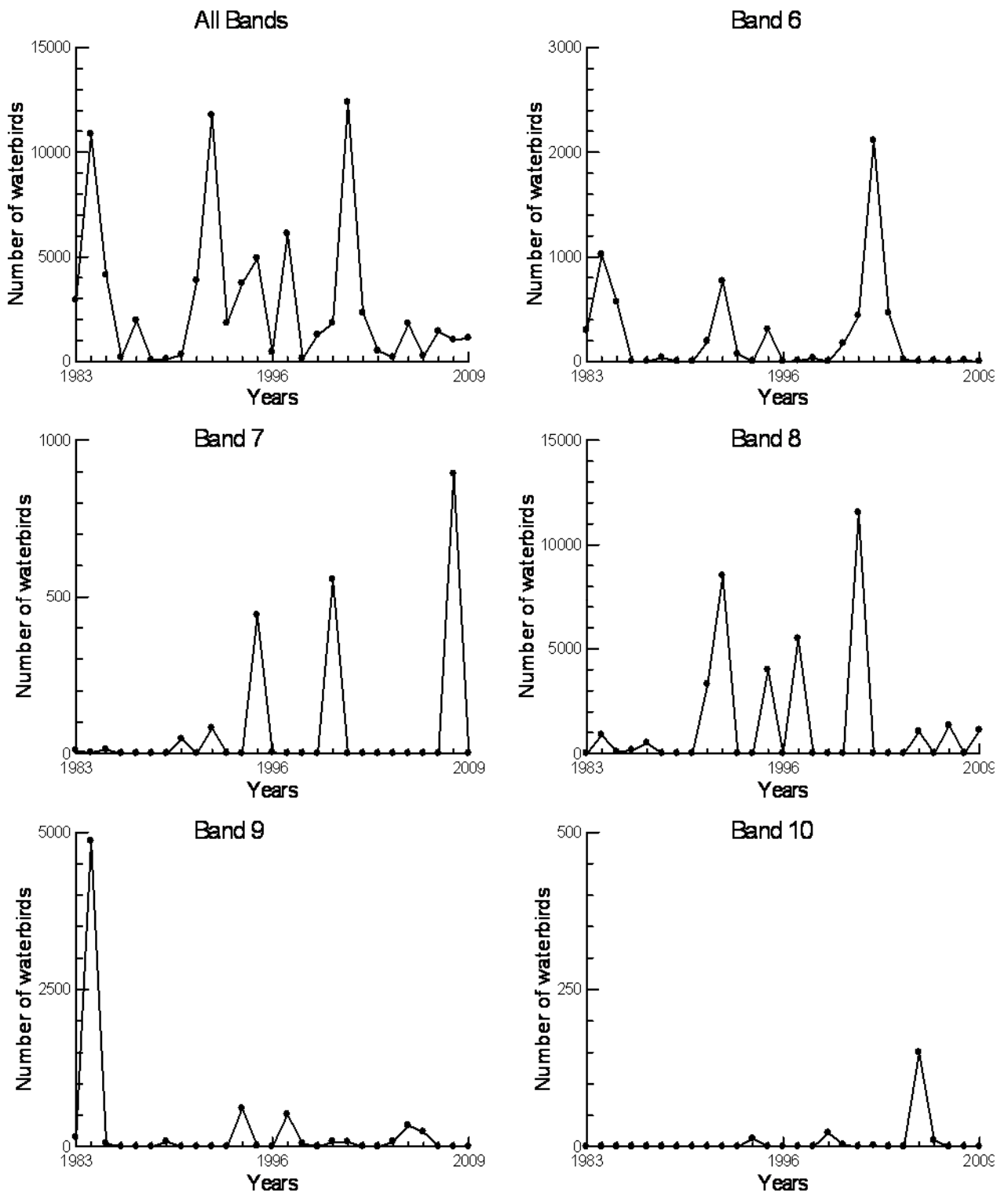
Scales vary on graphs

Figure 20. Freckled duck 1-5



Scales vary on graphs

Figure 21. Freckled duck 6-10



Scales vary on graphs

Figure 22. Australian shelduck 1-5

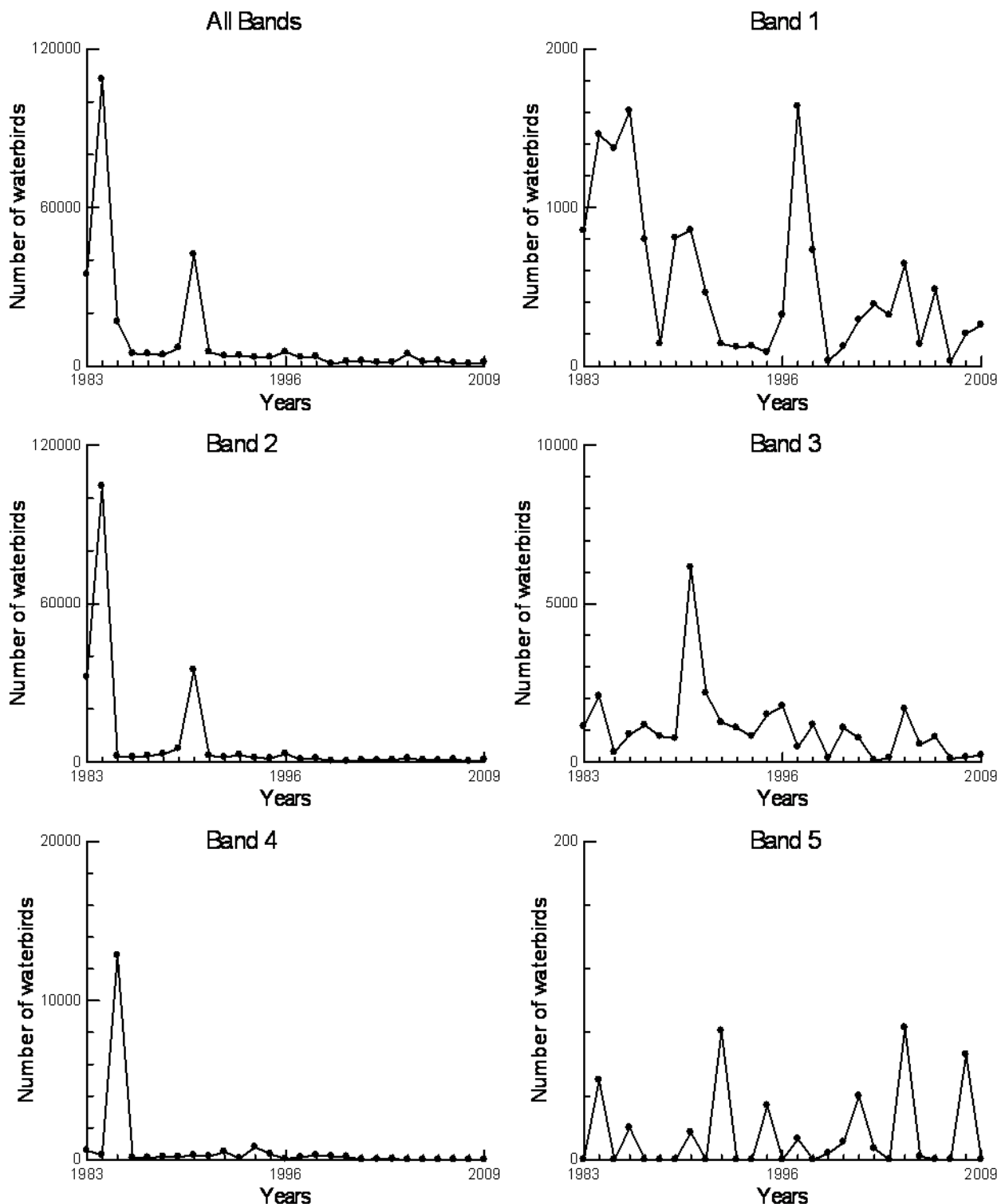
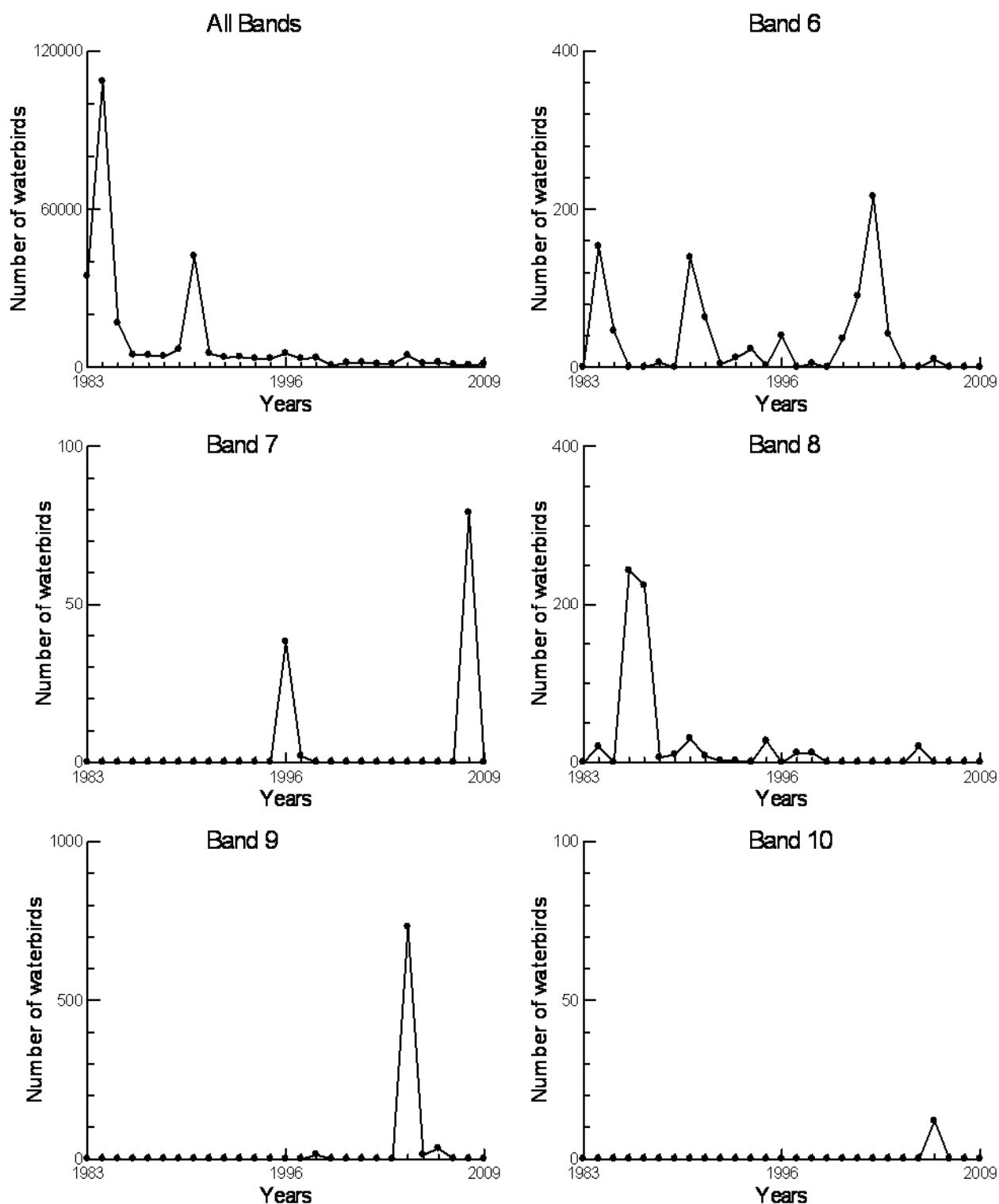
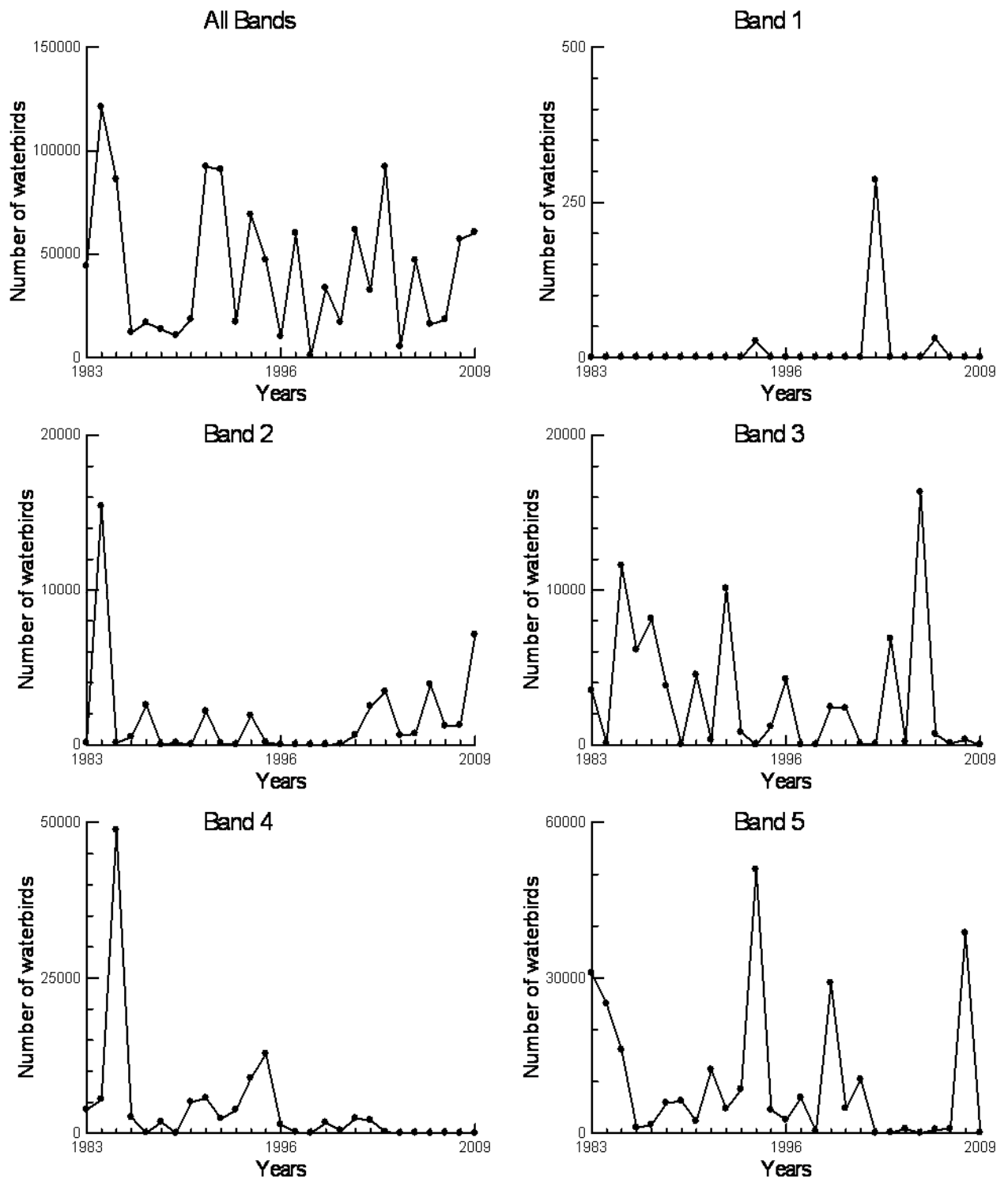


Figure 23. Australian shelduck 6-10



Scales vary on graphs

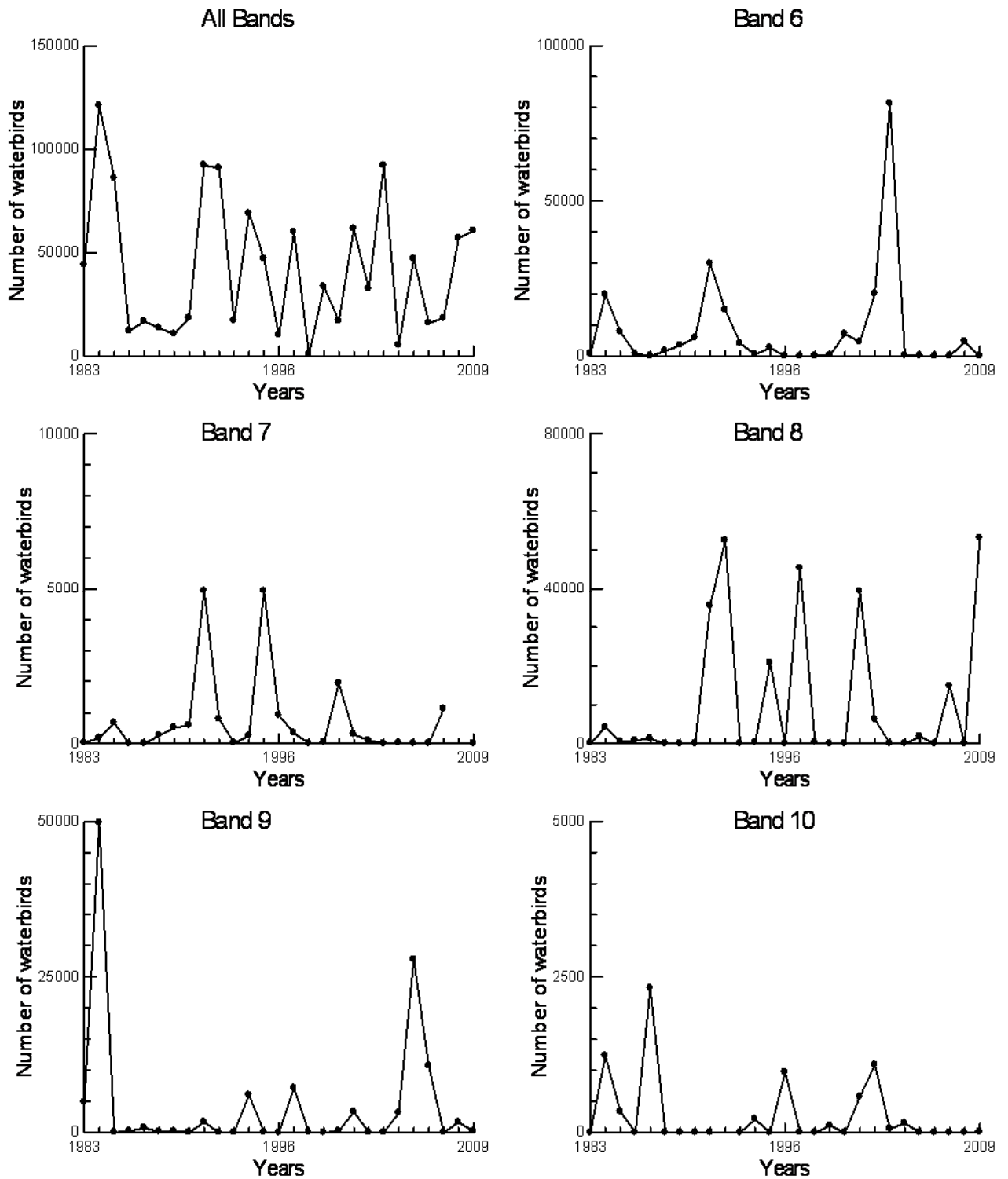
Figure 24. Pink-eared duck 1-5



Scales vary on graphs



Figure 25. Pink-eared duck 6-10



Scales vary on graphs

Figure 26. Plumed whistling-duck 1-5

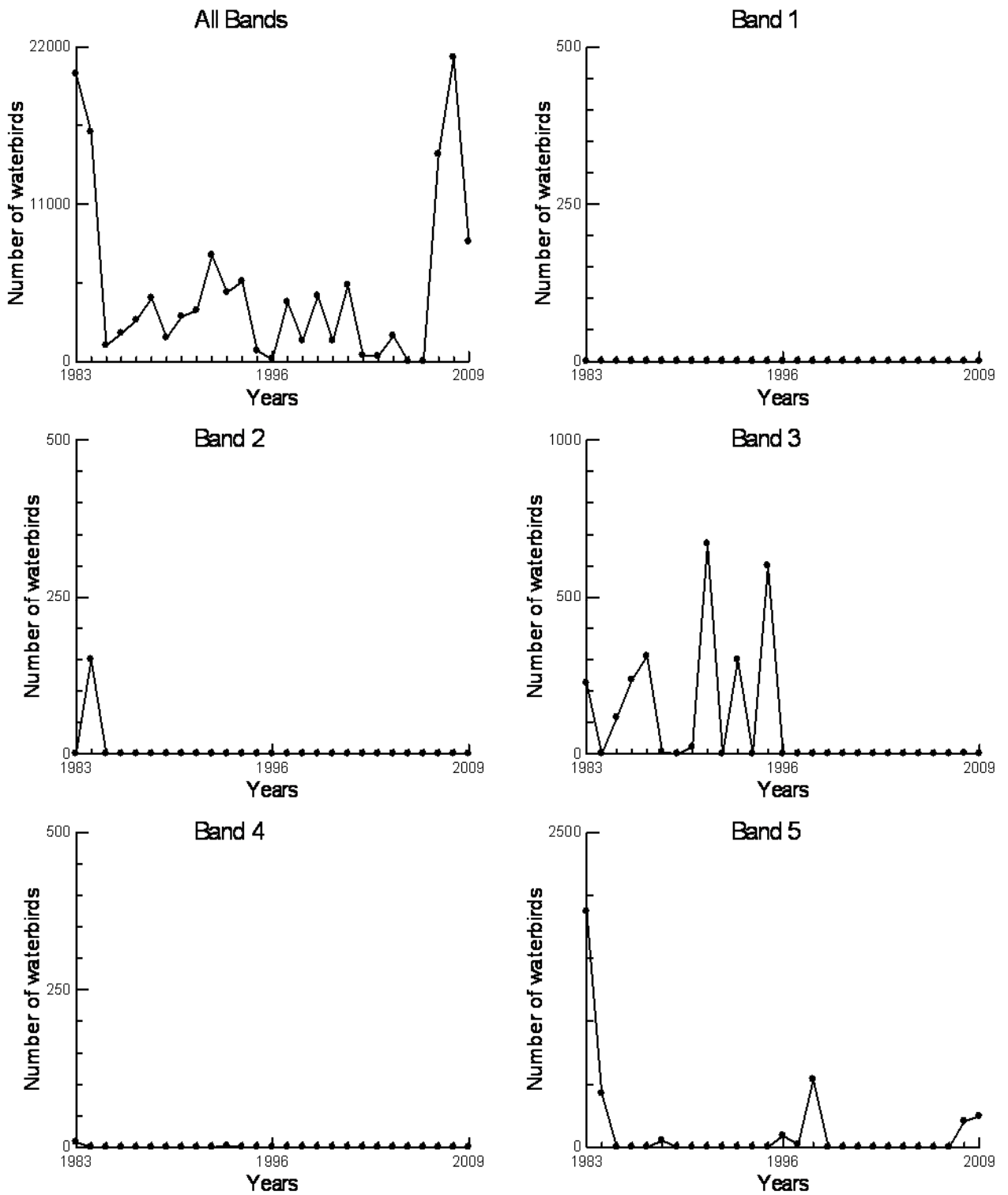
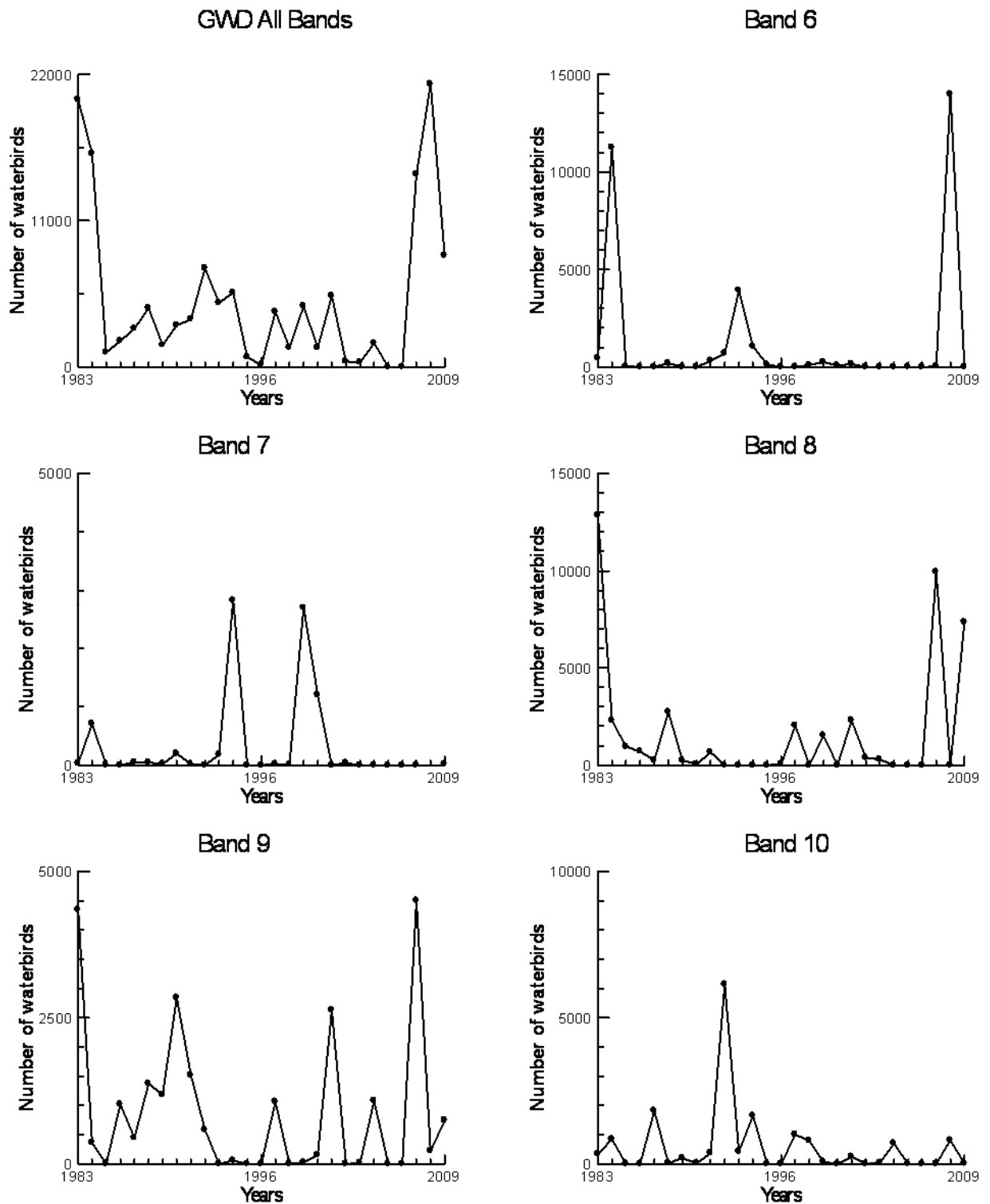


Figure 27. Plumed whistling-duck 6-10



Scales vary on graphs

Figure 28. Australian wood duck 1-5

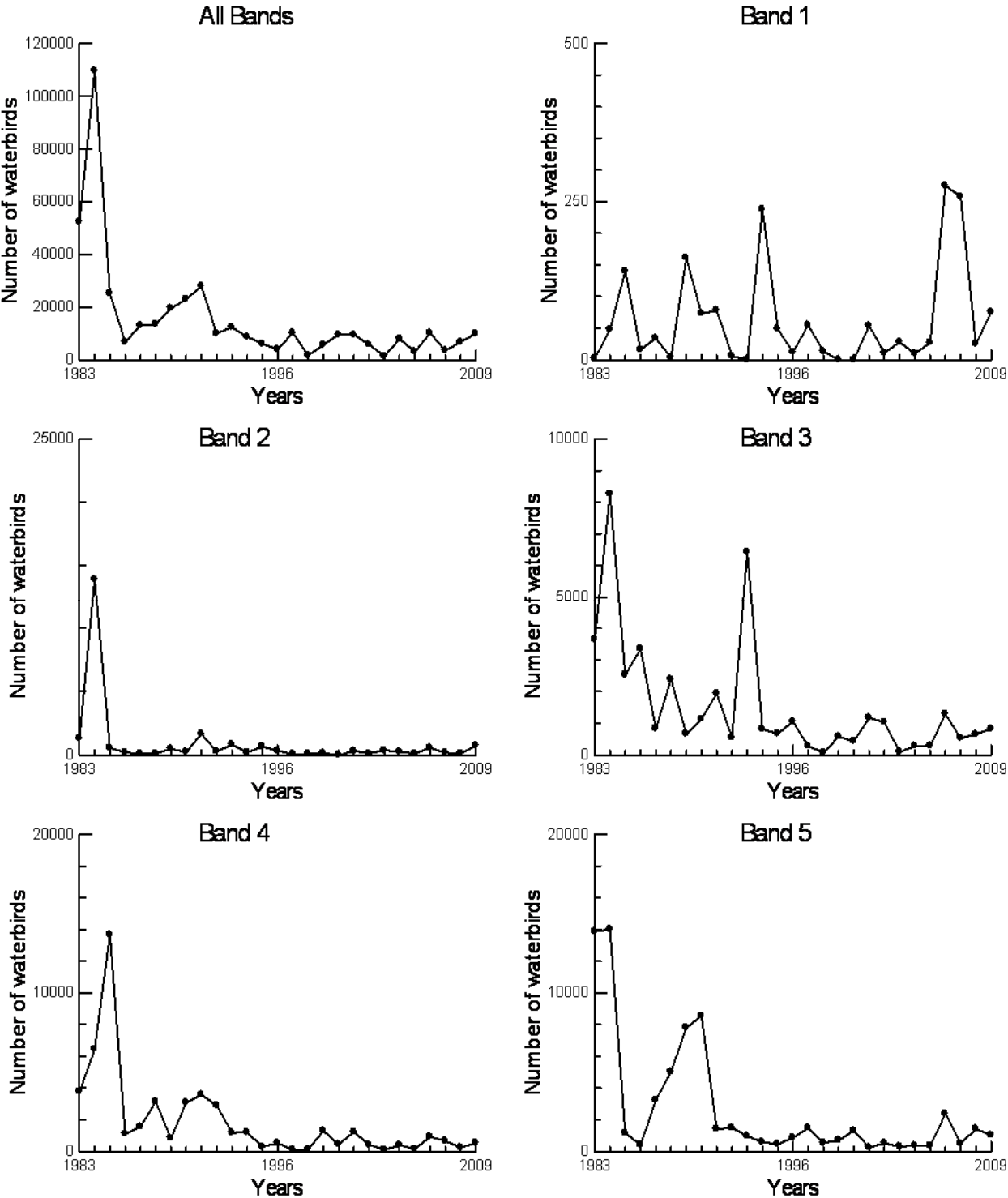
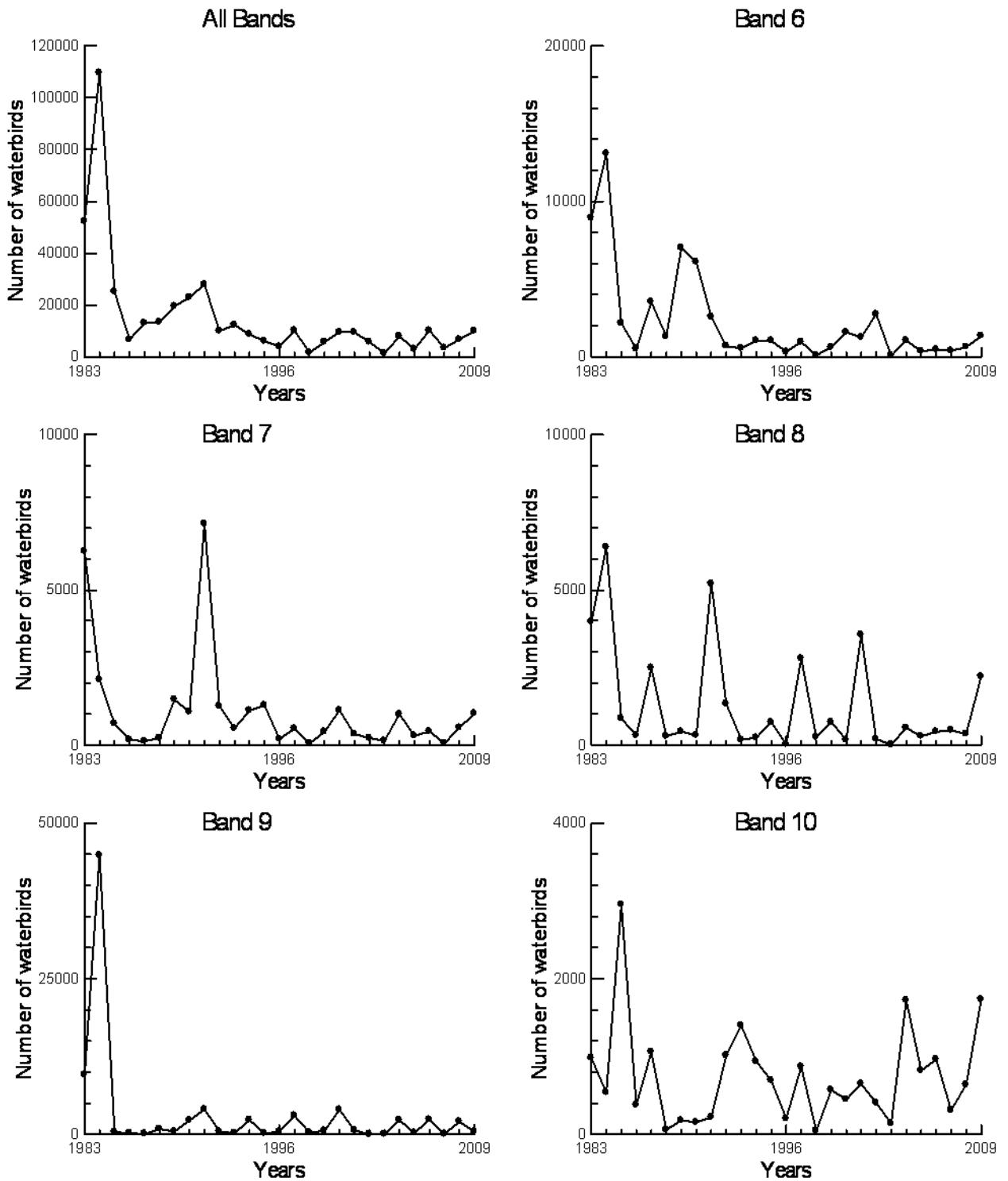


Figure 29. Australian wood duck 6-10



Scales vary on graphs