



Aerial Survey of Wetland Birds in Eastern Australia - October 2007 Annual Summary Report

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Results summary

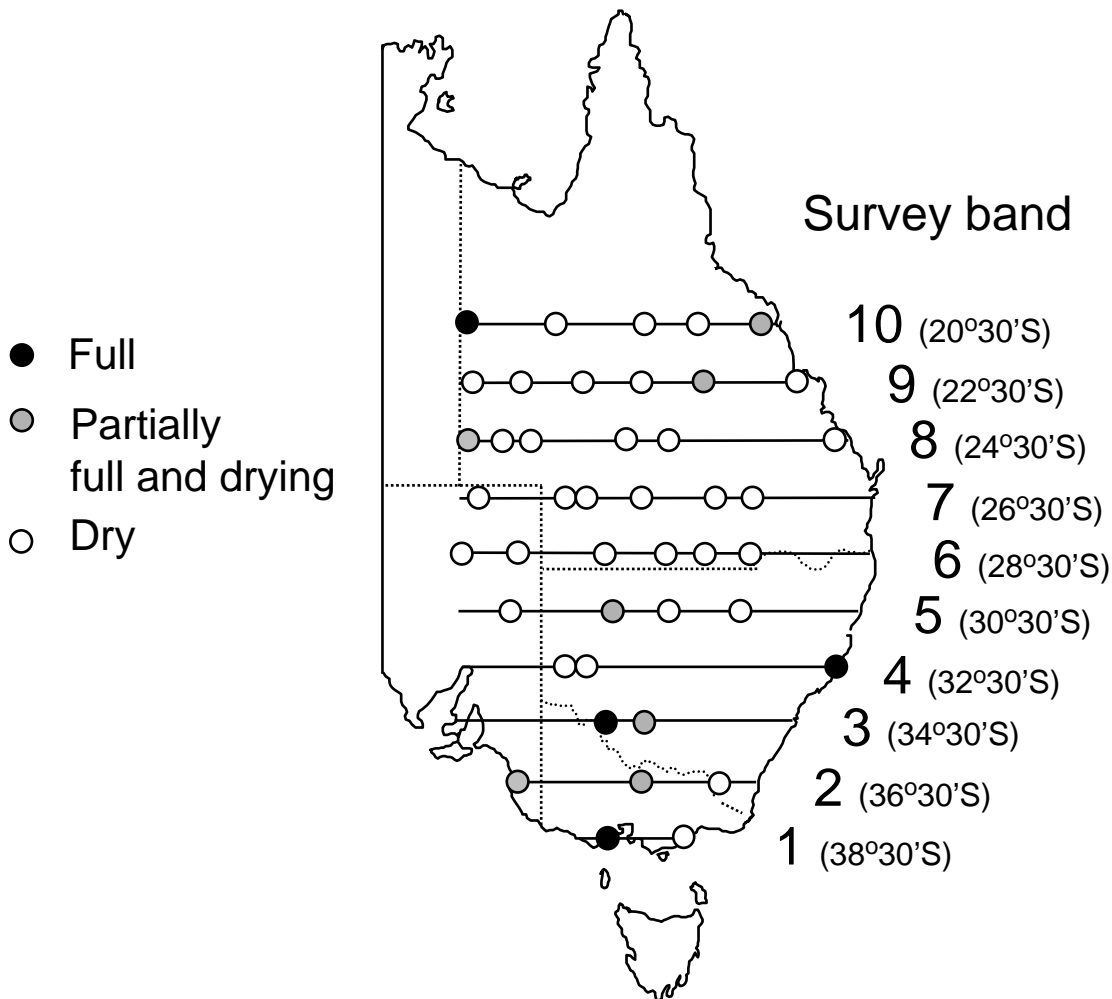
1. Severe and widespread drought conditions continue to affect wetlands, floodplains and rivers throughout eastern Australia. Trend analyses indicate declines in waterbird abundance, wetland area, breeding abundance and breeding species richness are significant.
2. Below average wetland area was recorded throughout most of the survey area (Fig.1). The southern Coorong was almost dry. The Macquarie Marshes, Lowbidgee and Menindee Lakes were dry or almost dry. Most rivers in the Murray-Darling Basin were also low with little water on the floodplain. Gippsland lakes in the survey band were dry.
3. Several wetlands in the Georgina-Diamantina catchment, including Lakes Torquinnie, Mumbleberry & Phillipi held water after rainfall early in 2007, and 42,000 waterbirds were recorded but these were drying back and shallow. Some of the Paroo overflow lakes also held water but relatively few birds (<4,100).
4. Wetland area index was the lowest on record (Fig. 2). Available wetland habitat was mostly (22%) distributed in the north (Band 10) and Bands 2 to 4. Band 2 contained 14% of total wetland area; Band 3 had 16% and Band 4 had 16% (Fig. 3).
5. Total waterbird abundance was low (second lowest on record; Fig. 3) and waterbirds were concentrated on a few wetlands. Six Queensland wetland systems held 41% of total abundance; Lake Torquinnie (15%, Band 8), Lake Moondarra (6%, band 10), Coolmunda Dam (6%, Band 6), Lake Phillipi and Pippagitta Waterhole (10%, Band 8) and Lake Galilee (4%, Band 9) (Fig. 4).

This survey is run by the University of NSW and the NSW Department of Environment and Climate Change, with funding provided by the South Australian Department of Environment and Heritage, the Queensland Environment Protection Agency and the Victorian Department of Sustainability and Environment.

Result summary continued

6. Total breeding index (all species combined) was below average, and concentrated (92%) in one location – Rhyll Swamp in Band 1 (Figs 4-6). Most birds (>99%) breeding here were White ibis. Breeding species richness was the lowest on record, with only two non-game species, White Ibis and Black Swan recorded (92% & 8%). Breeding within all survey bands was also low (Figs 7 & 8).
7. Low numbers of waterbirds and breeding on key wetland systems including Cooper Creek, Paroo overflow, Menindee Lakes, Lowbidgee and Macquarie Marshes extends a sequence of below average years (Figs 5 & 6). A combination of severe drought and long term effects of river regulation, continues to impact on wetland area, waterbird abundance and breeding.
8. Species at or near their lowest recorded numbers in 25 years included: Grey Teal, Black Swan, Australasian shoveler, Australian Shelduck, Musk Duck, Pacific Heron, Yellow-billed Spoonbill and Royal Spoonbill (Figs 9-29).

Figure 1. Wetland map 2007



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, Talyawalka 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

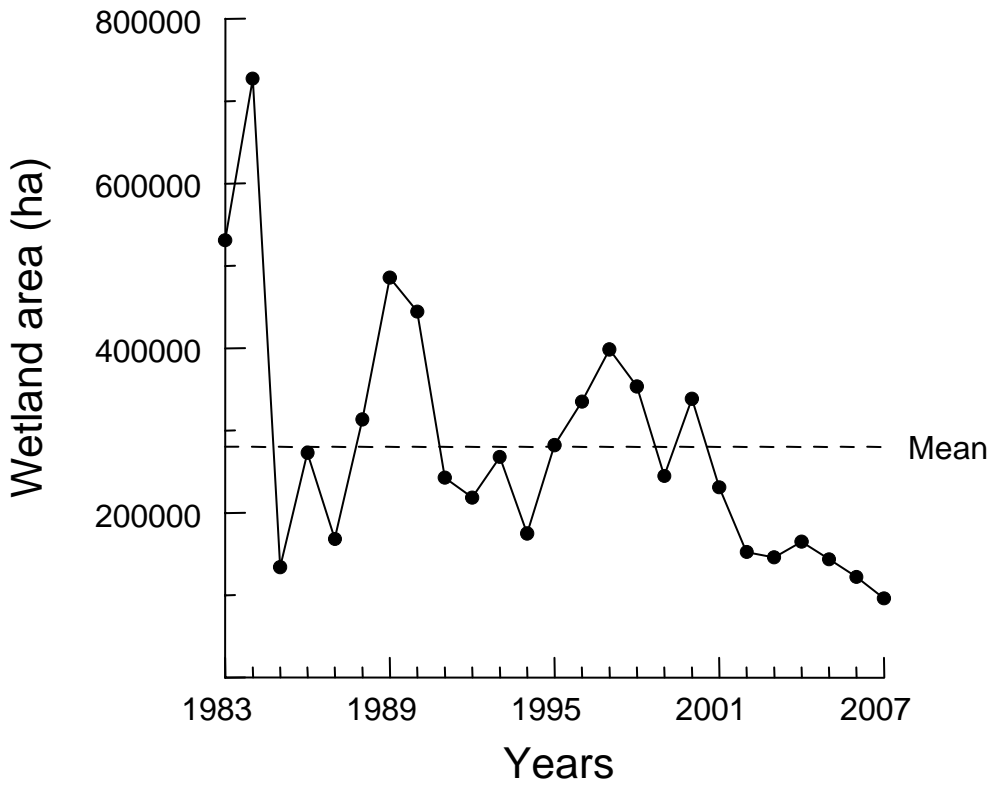


Figure 3. Total waterbirds

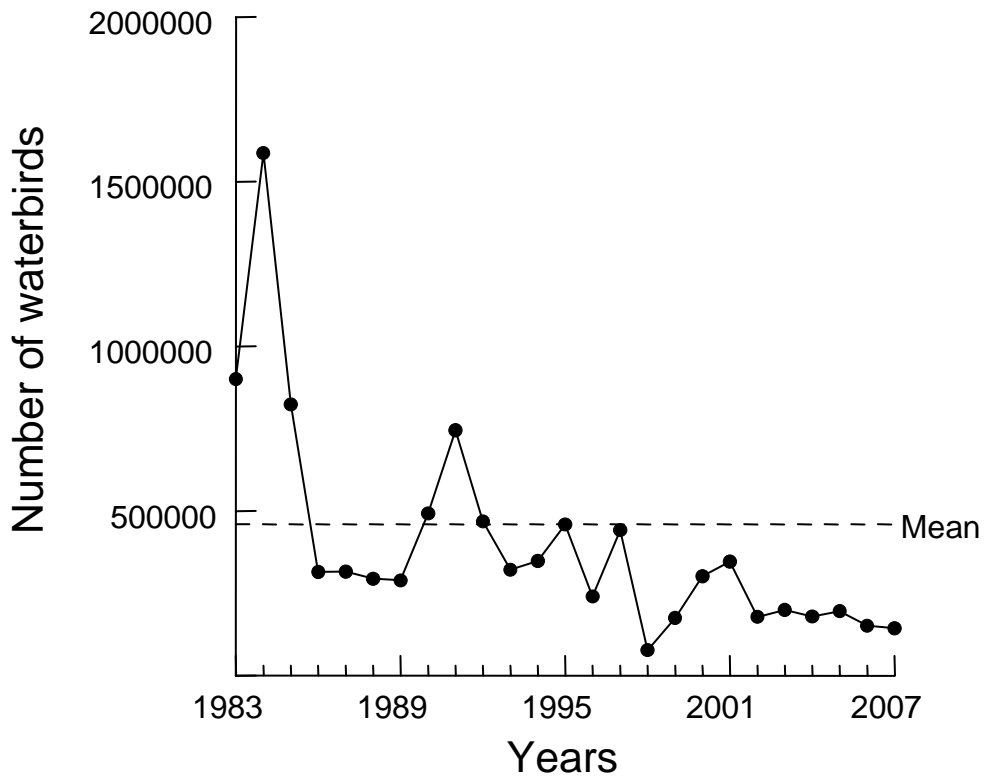
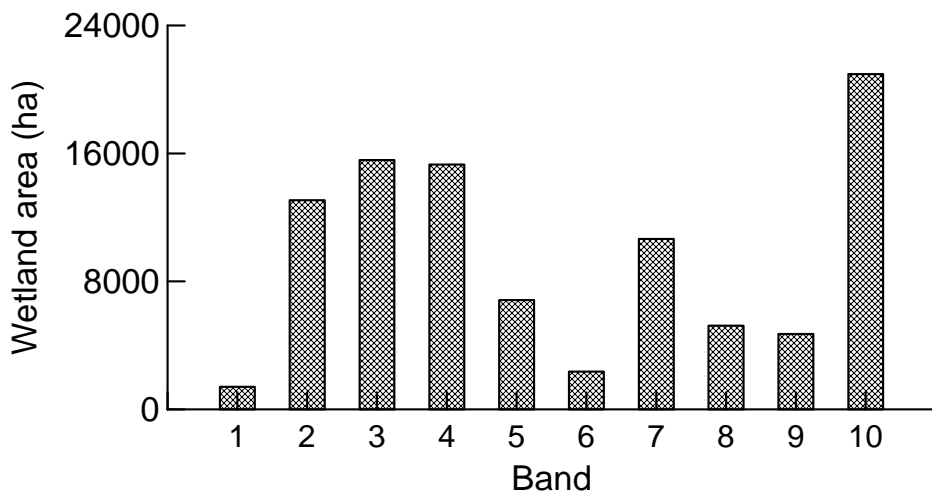
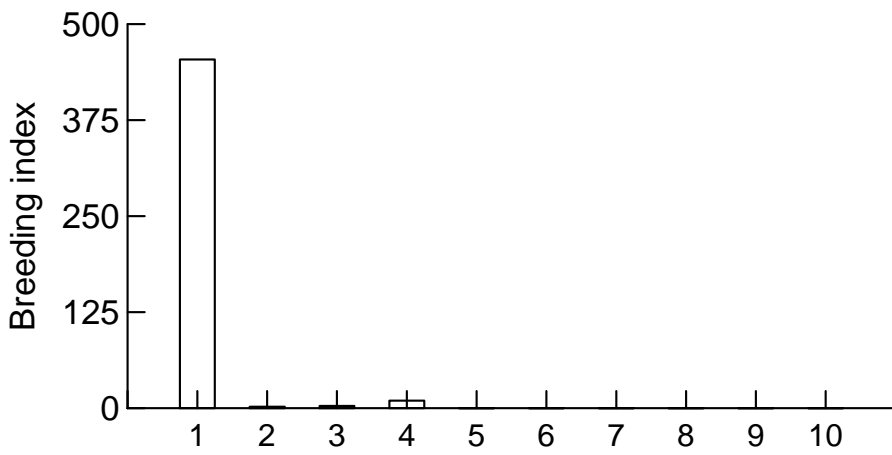
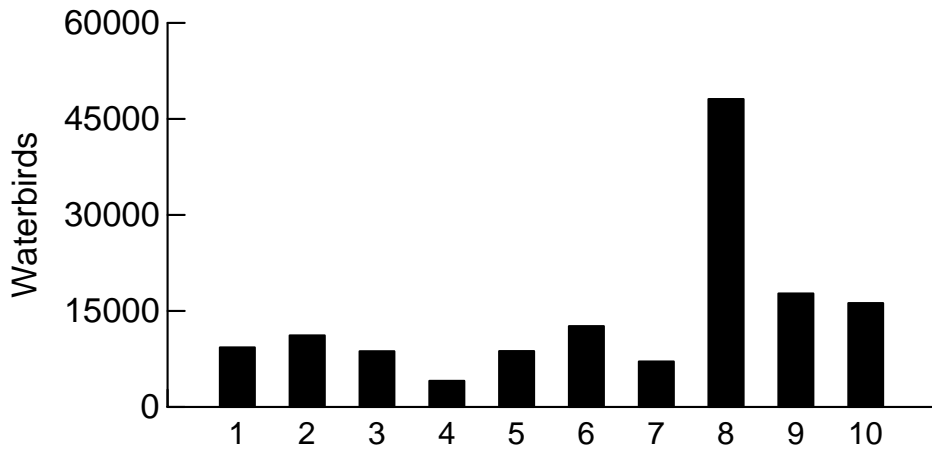


Figure 4. Band totals 2007



Scales vary on graph axes

Figure 5. Breeding index (all species)

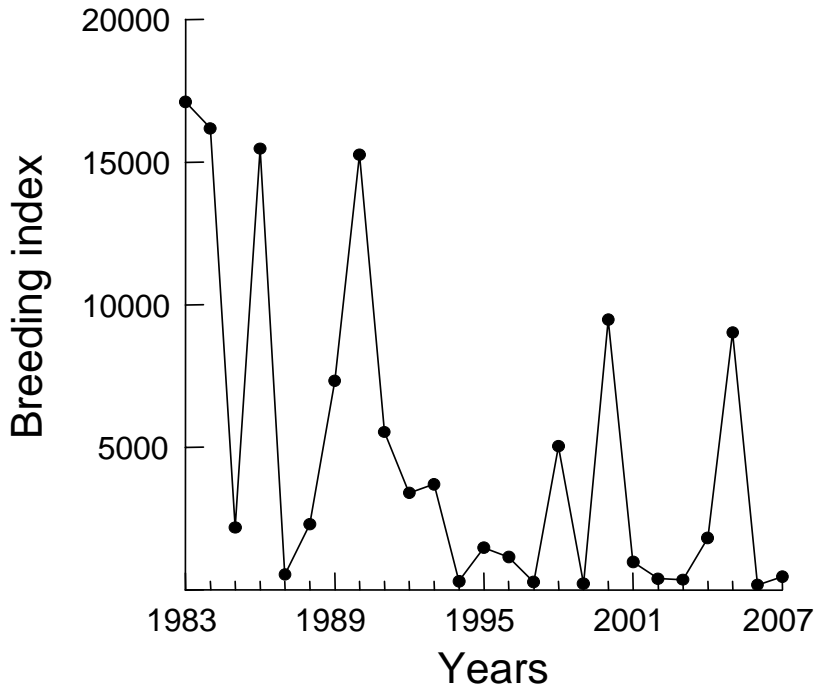
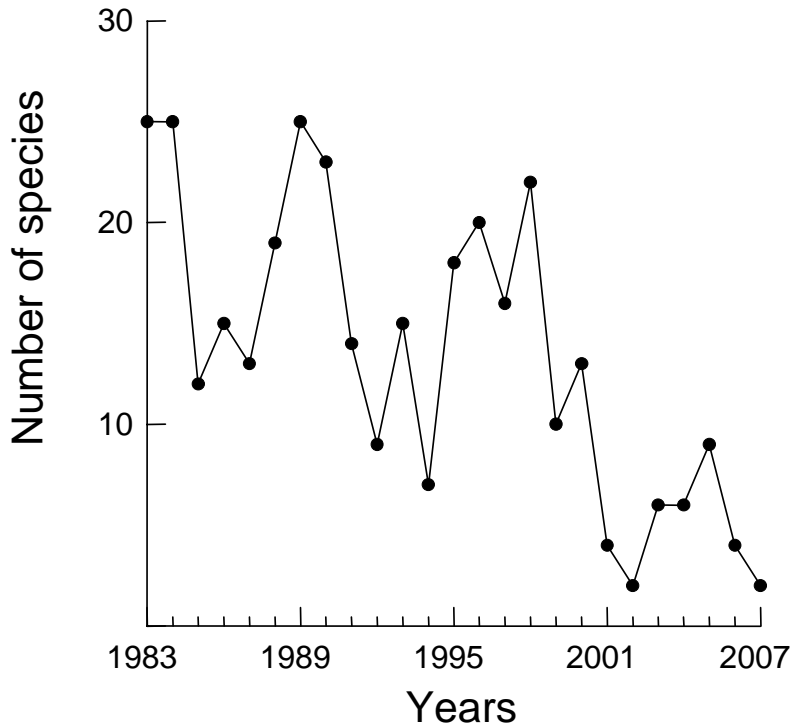
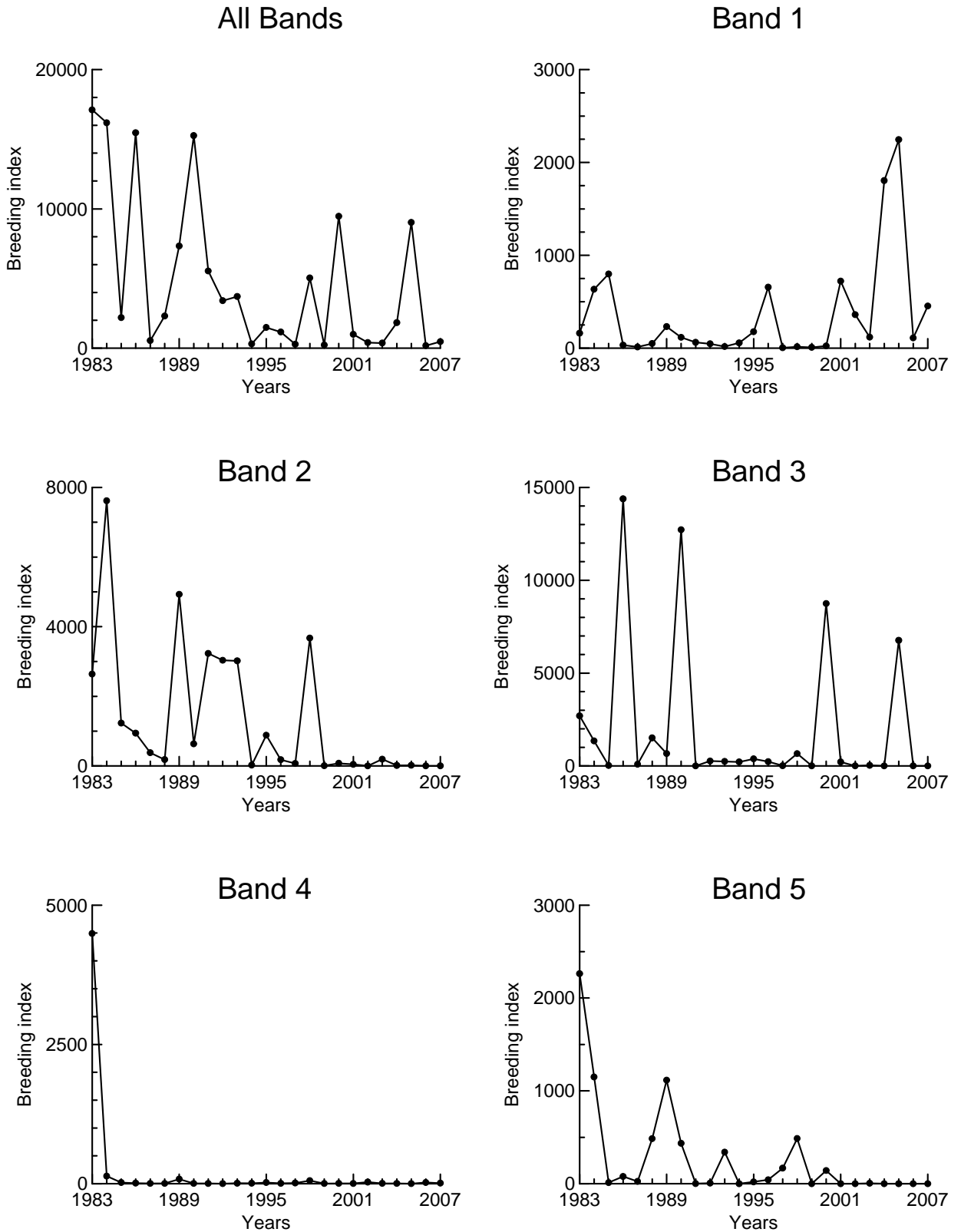


Figure 6. Number of species breeding



Scales vary on graph axes

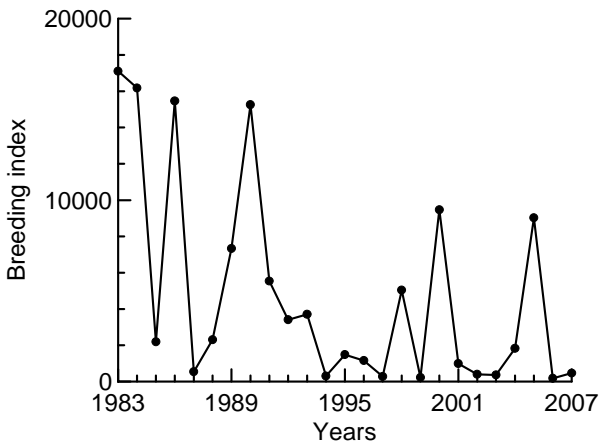
Figure 7. Breeding index (all species) 1-5



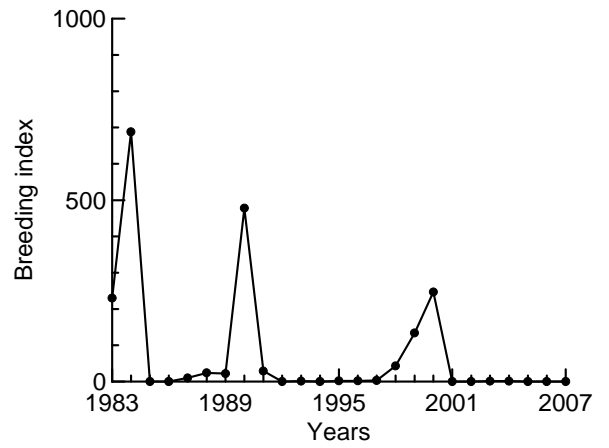
Scales vary on graphs

Figure 8. Breeding index 6-10

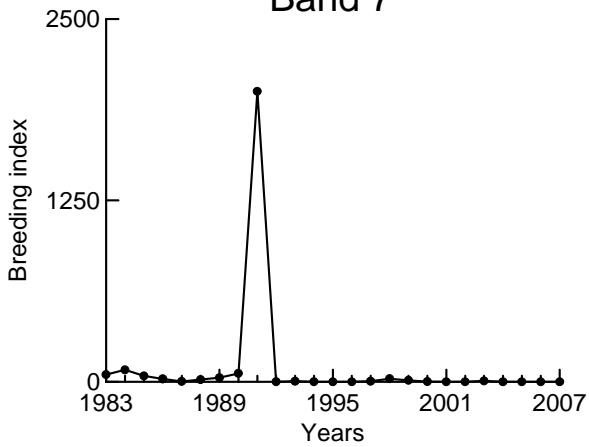
All Bands



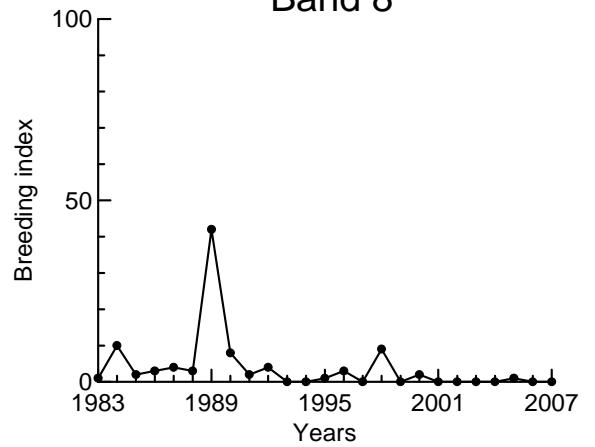
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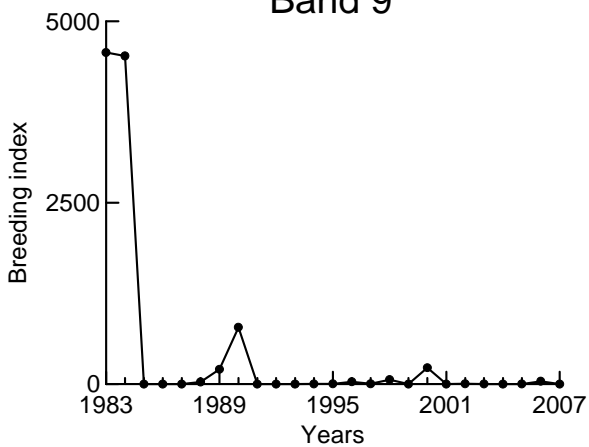
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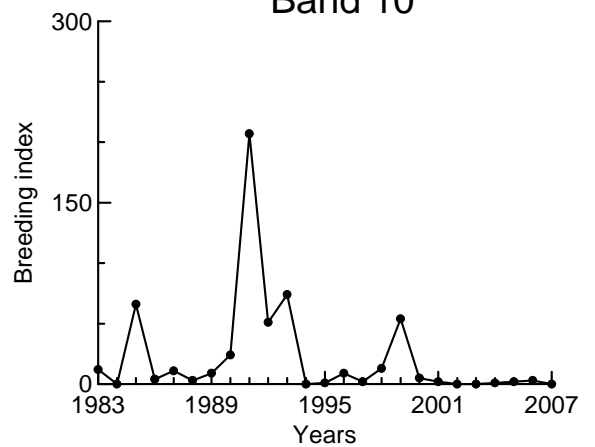
Band 8



Band 9



Band 10



Scales vary on graphs

Figure 9. Pacific black duck 1-5

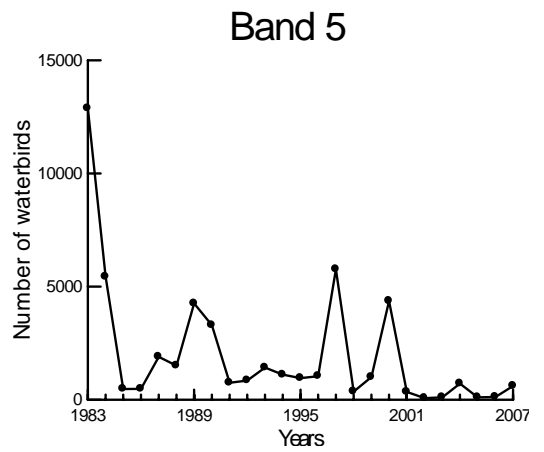
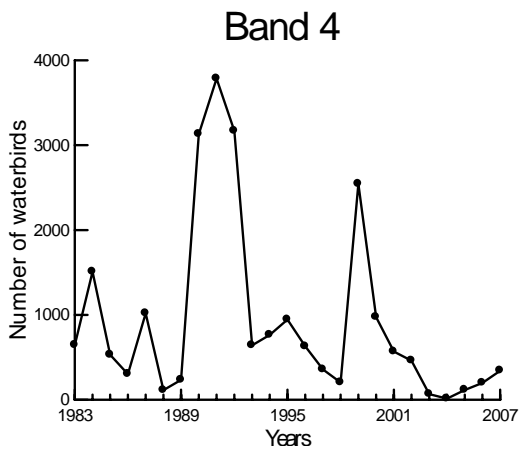
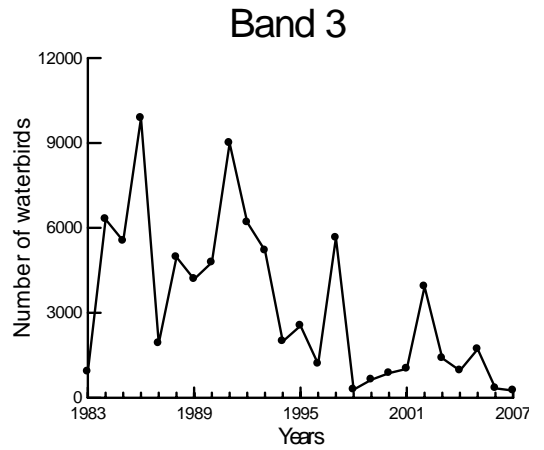
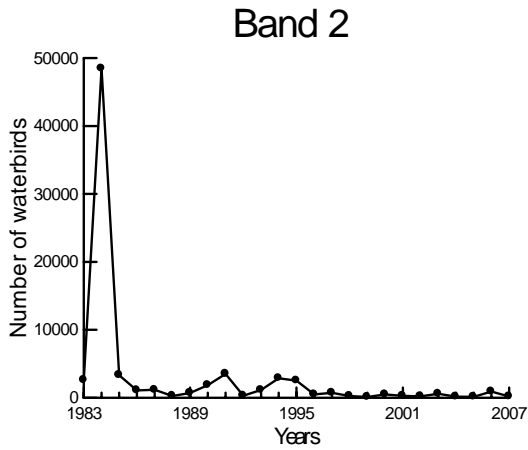
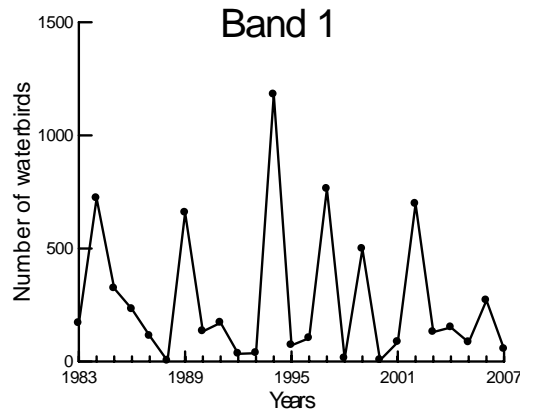
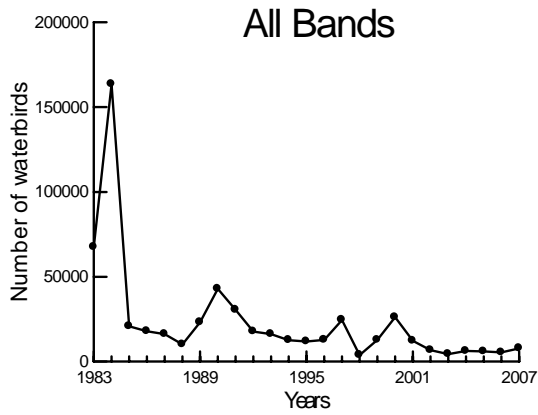
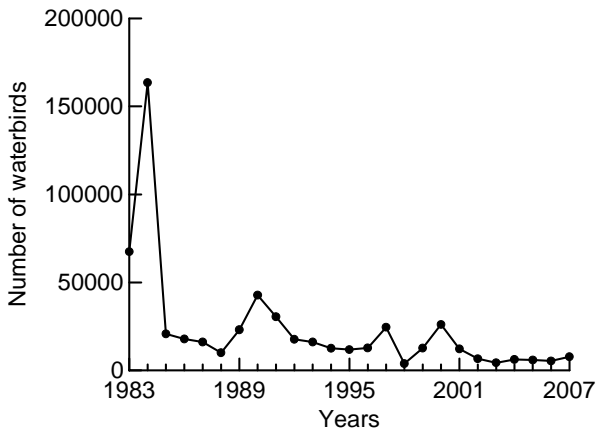
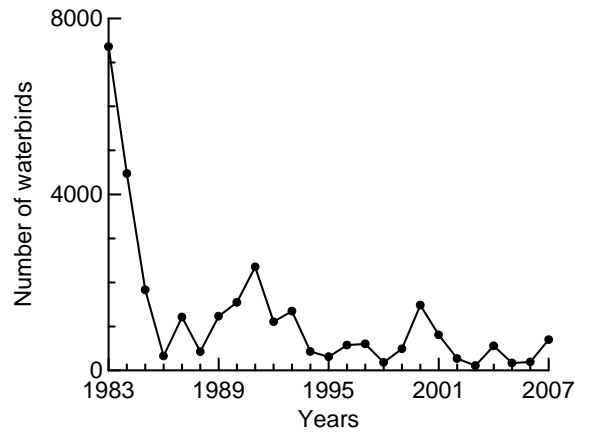


Figure 10. Pacific black duck 6-10

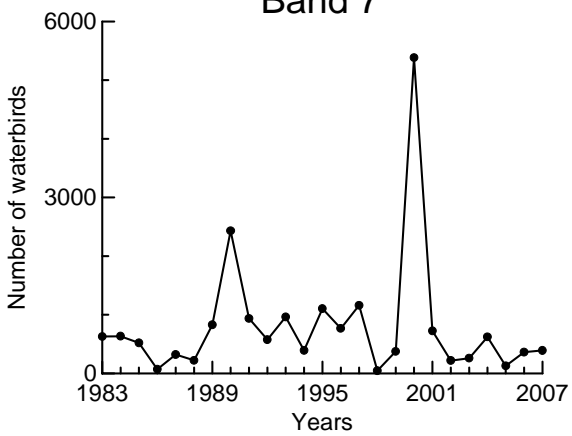
BDU All Bands



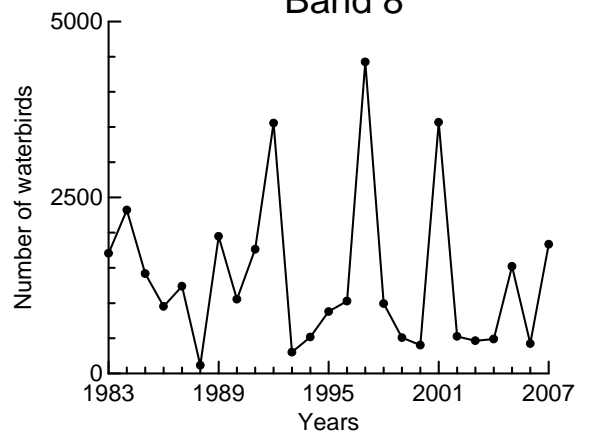
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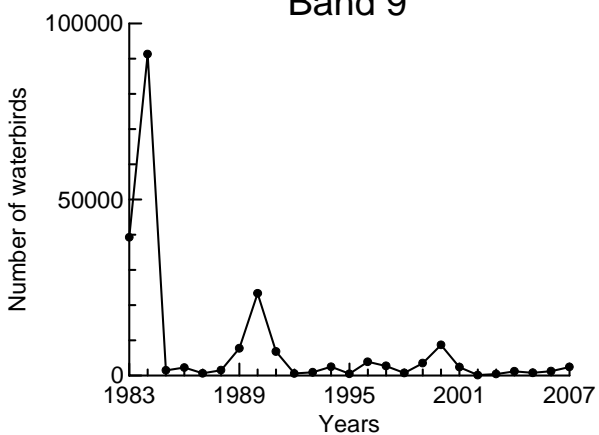
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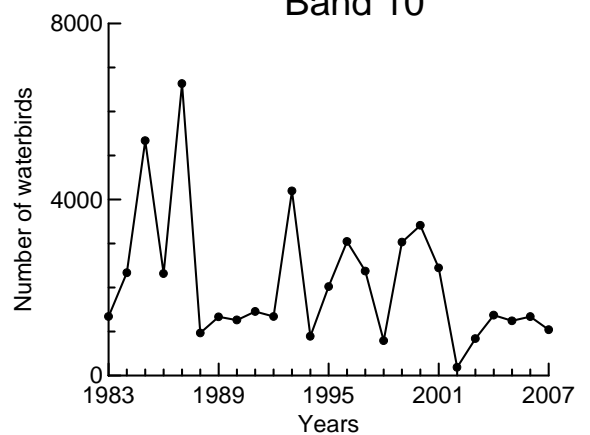
Band 8



Band 9

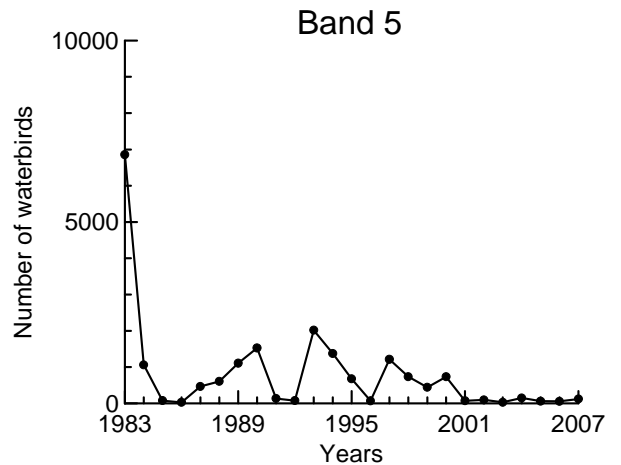
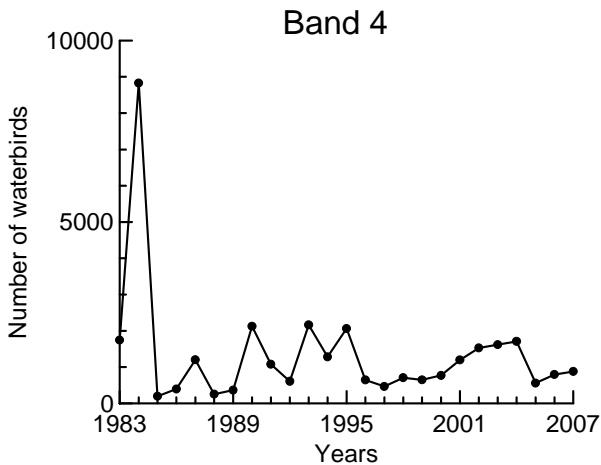
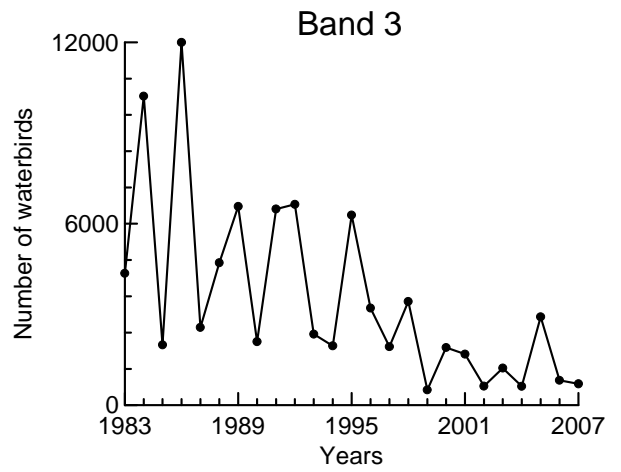
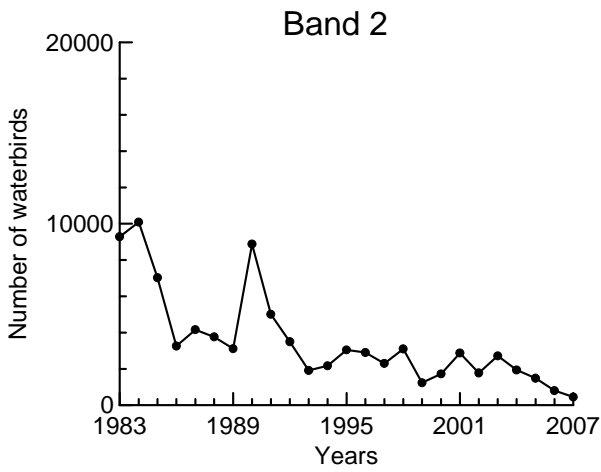
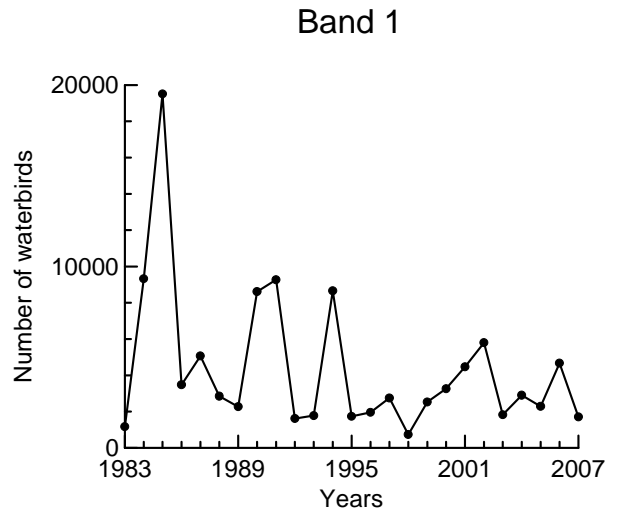
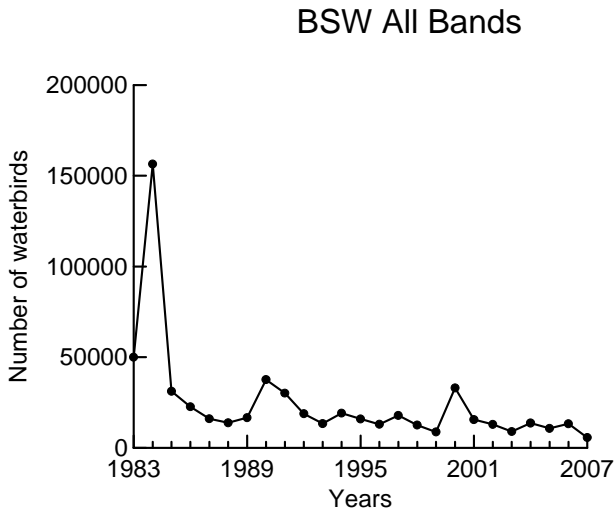


Band 10



Scales vary on graphs

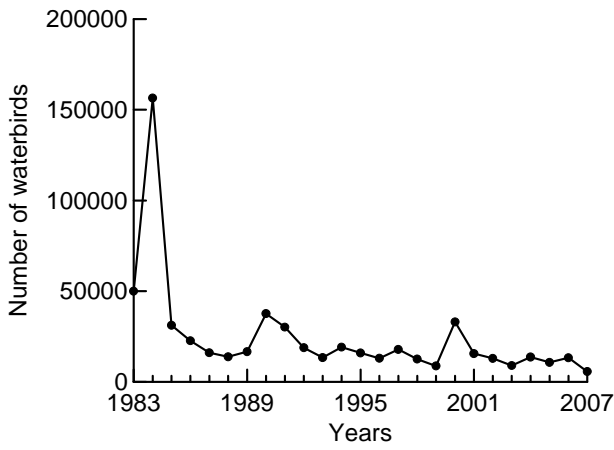
Figure 11. Black swan 1-5



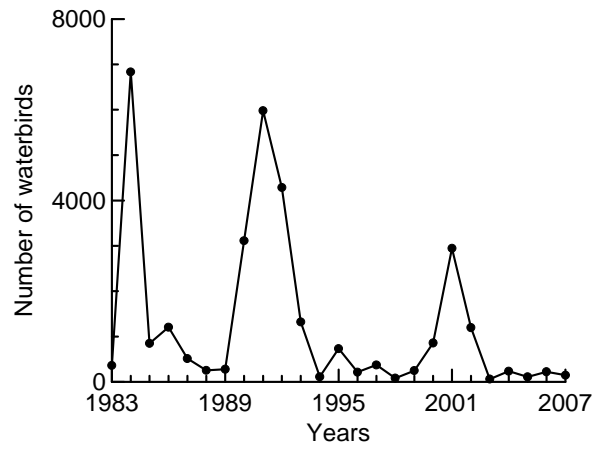
Scales vary on graphs

Figure 12. Black swan 6-10

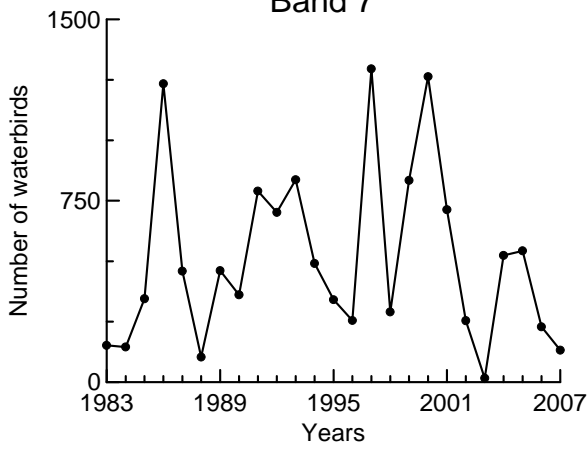
BSW All Bands



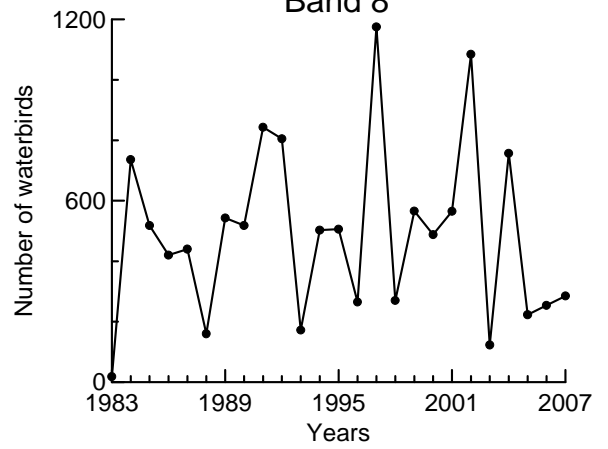
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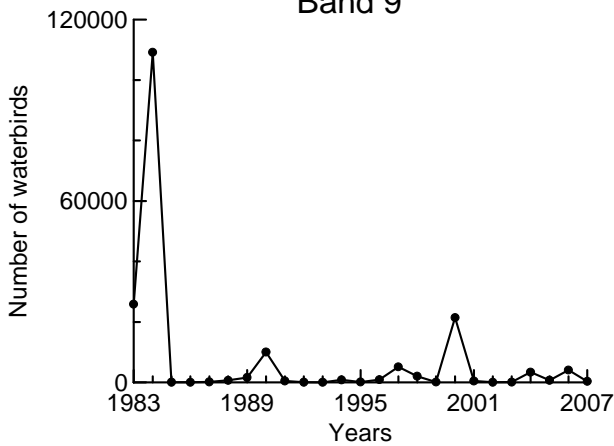
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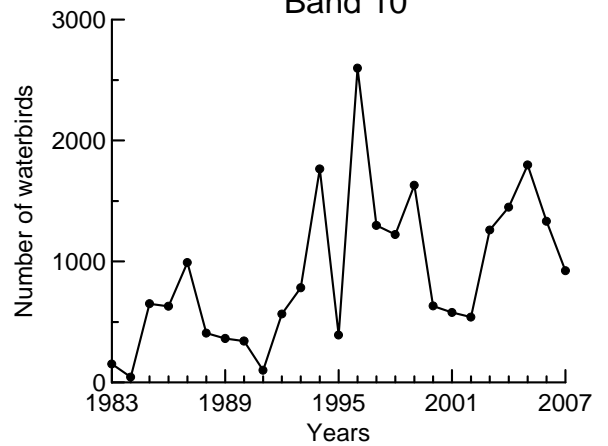
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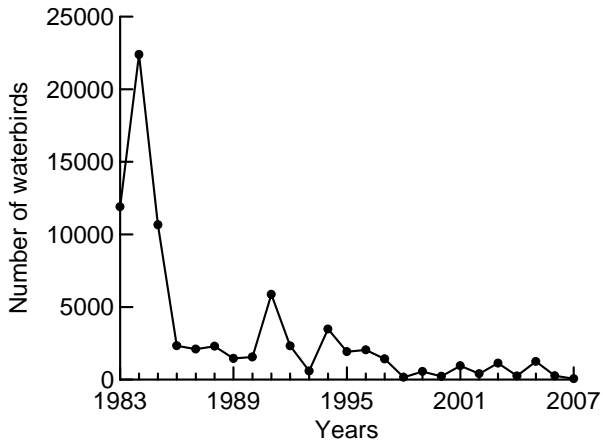
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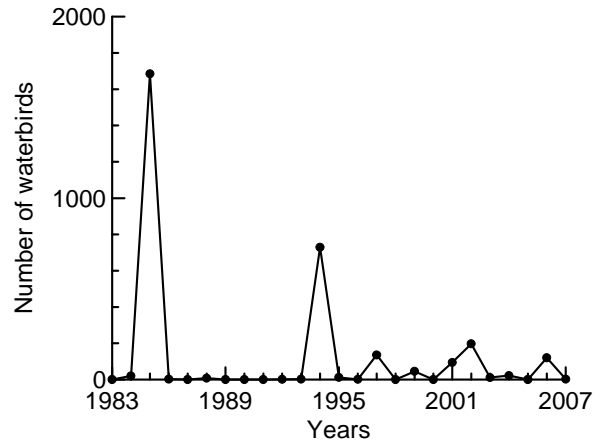
Scales vary on graphs

Figure 13. Australasian shoveler 1-5

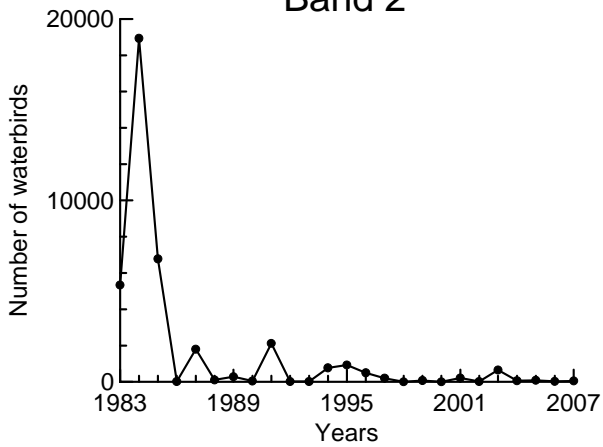
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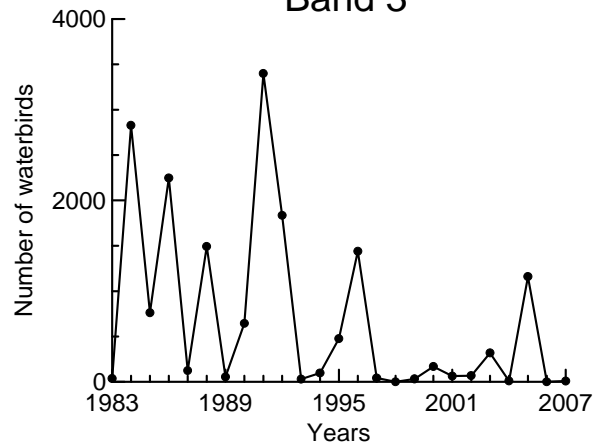
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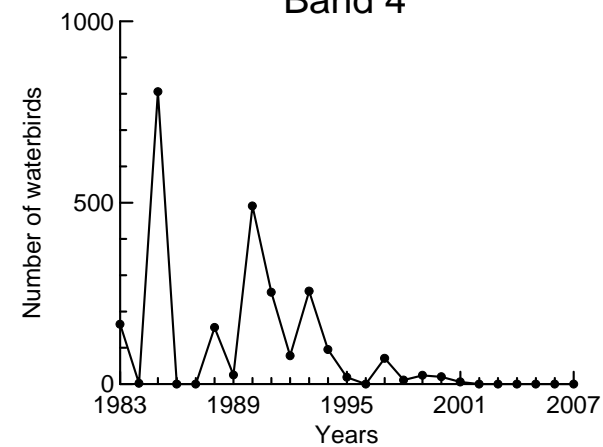
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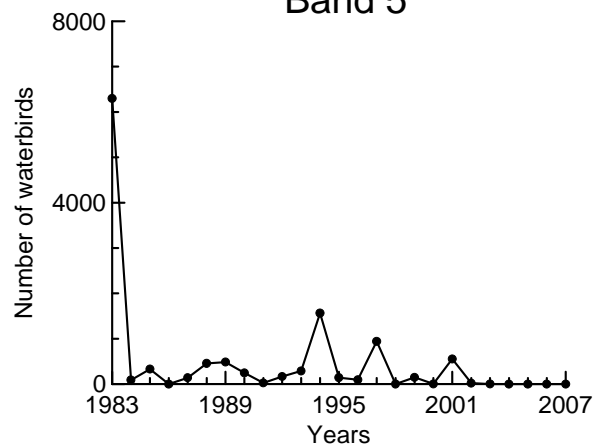
Band 3



Band 4



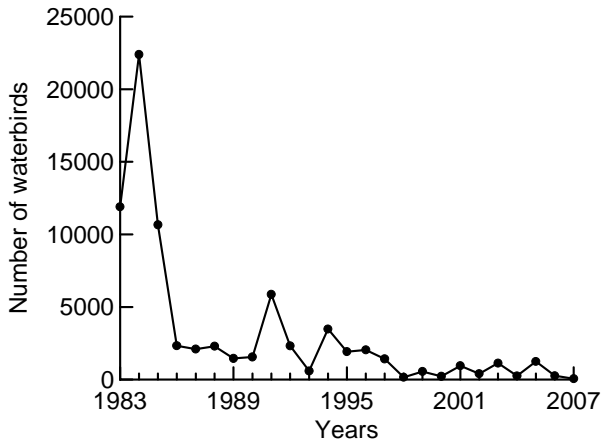
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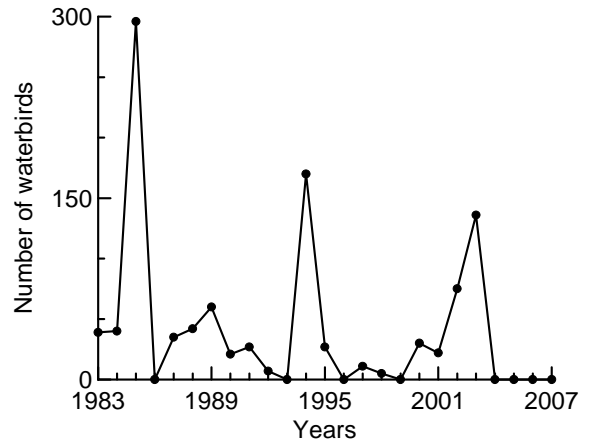
Scales vary on graphs

Figure 14. Australasian shoveler 6-10

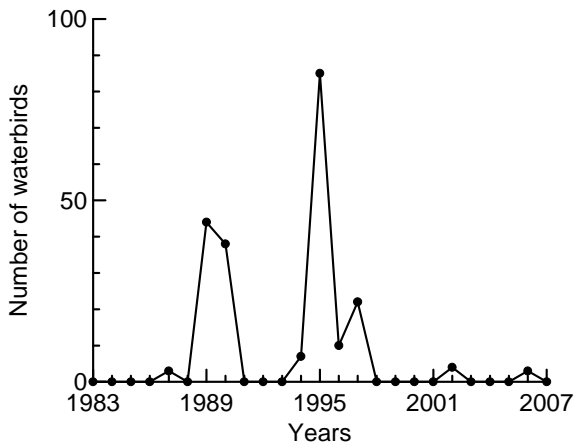
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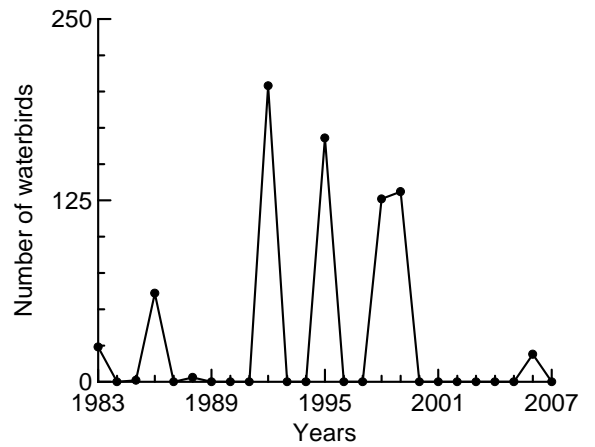
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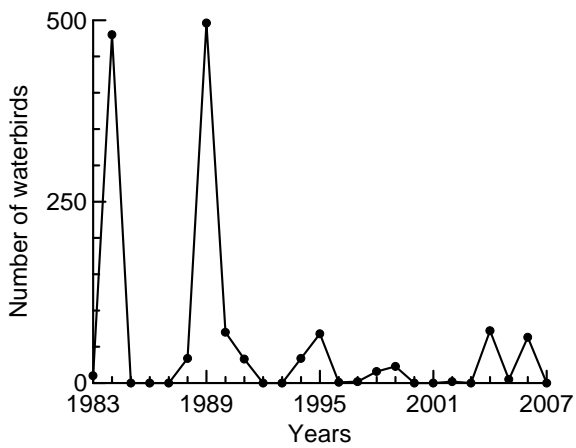
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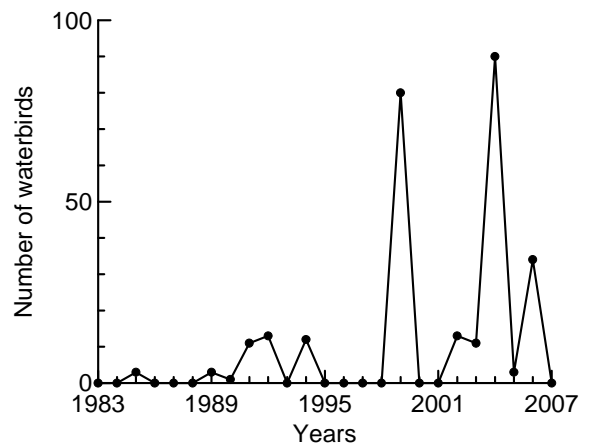
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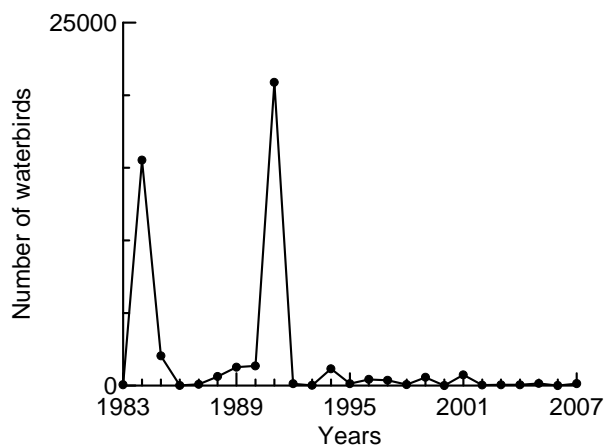
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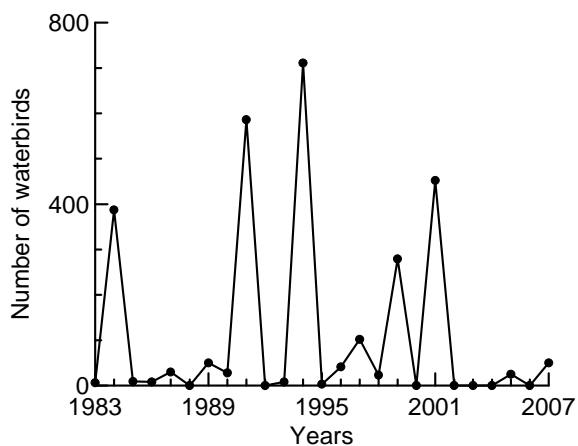
Scales vary on graphs

Figure 15. Chestnut teal 1-5

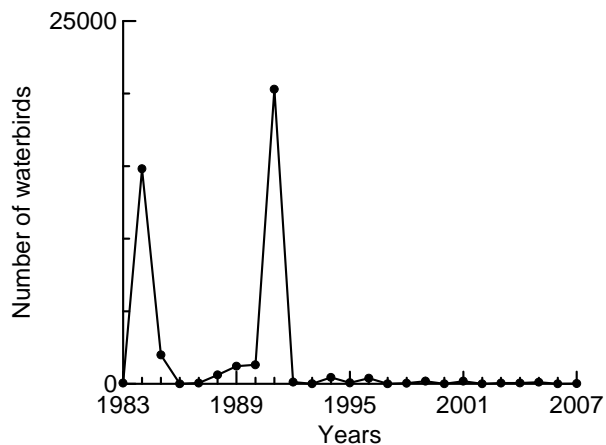
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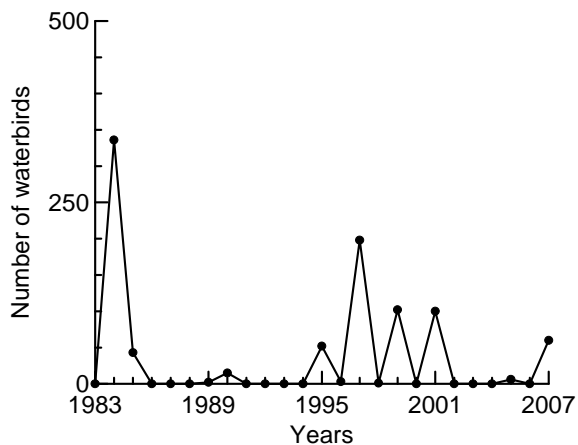
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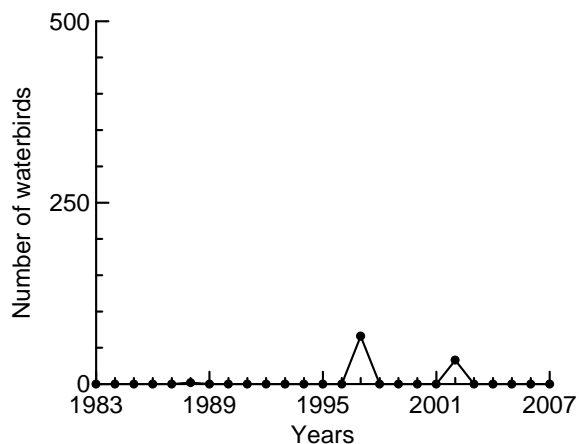
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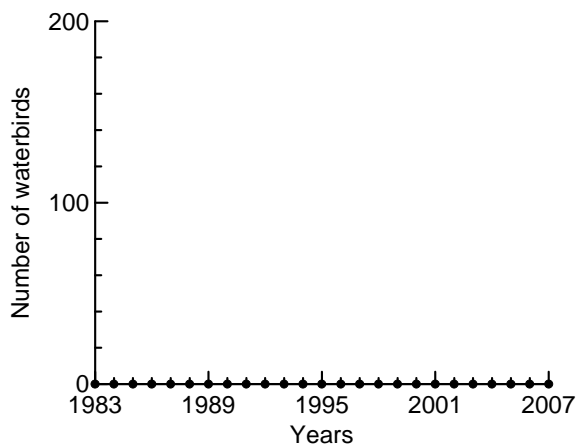
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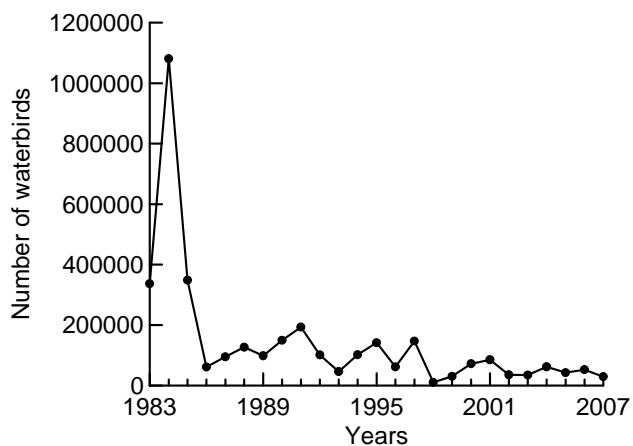
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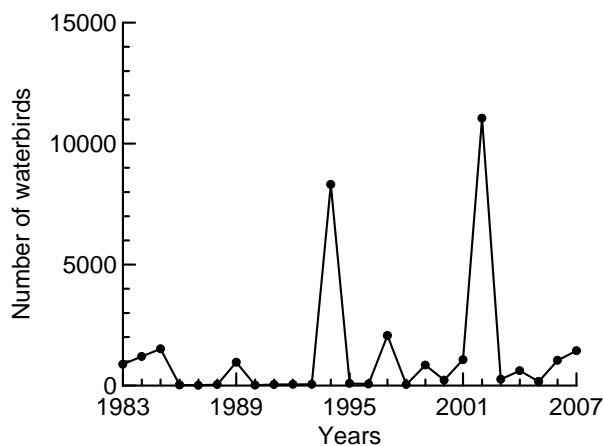
Scales vary on graphs

Figure 16. Grey teal 1-5

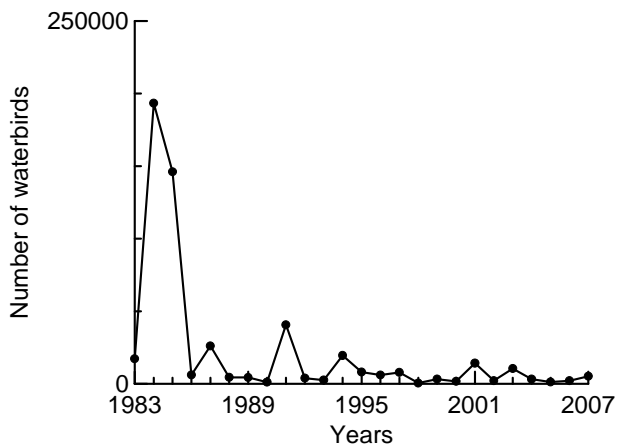
GTL All Bands



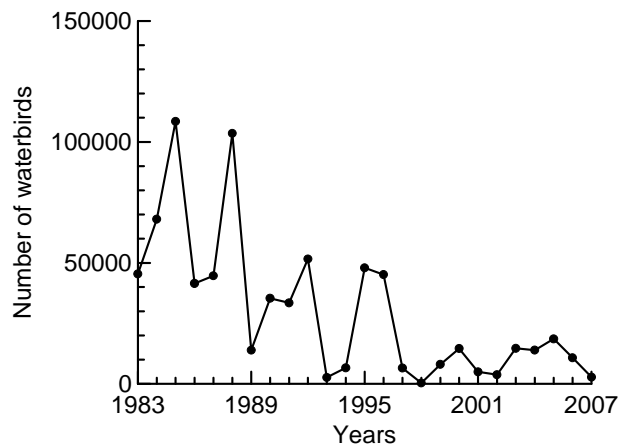
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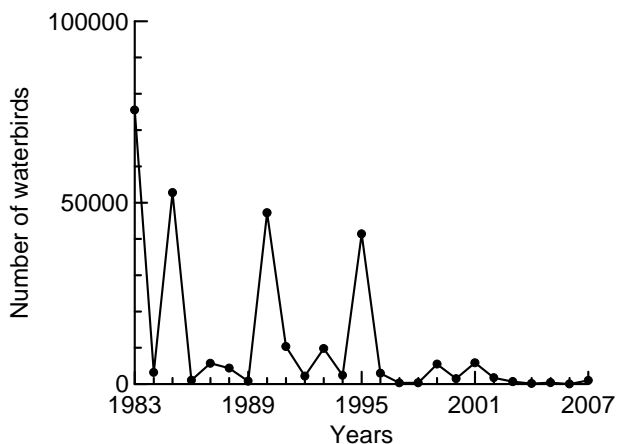
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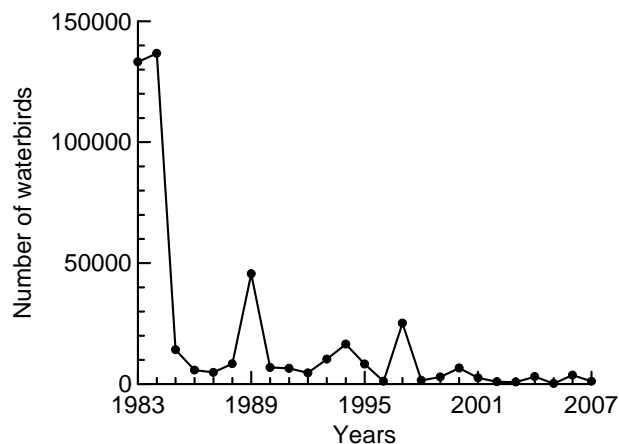
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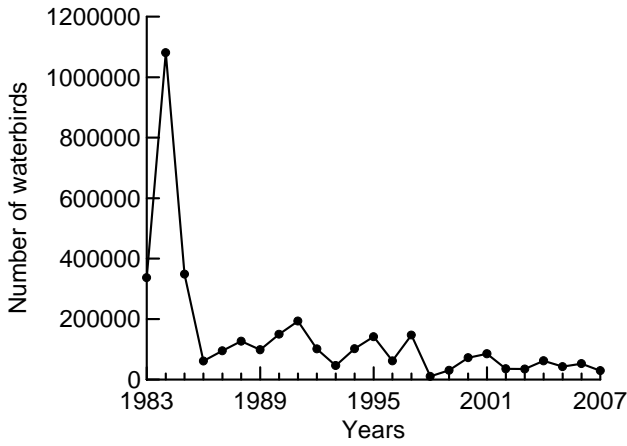
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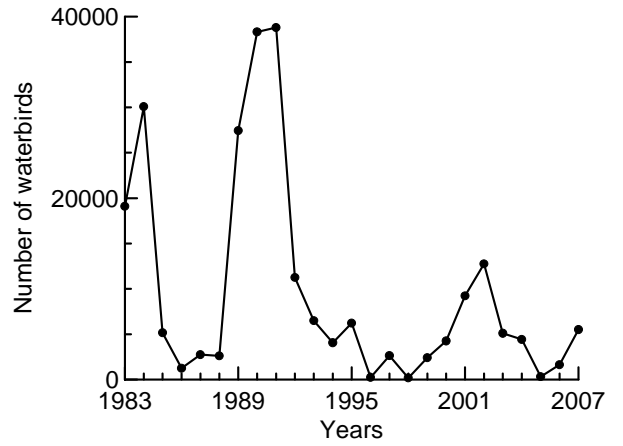
Scales vary on graphs

Figure 17. Grey teal 6-10

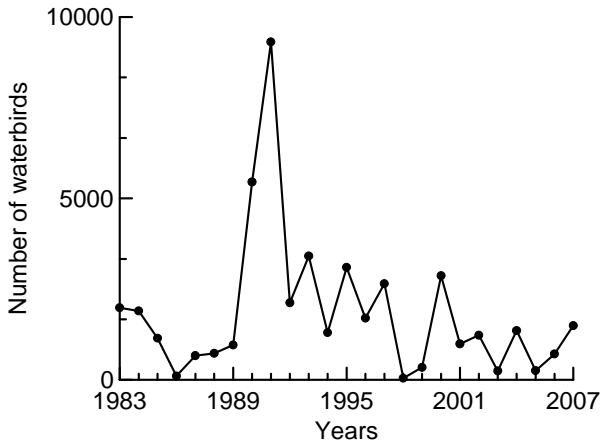
GTL All Bands



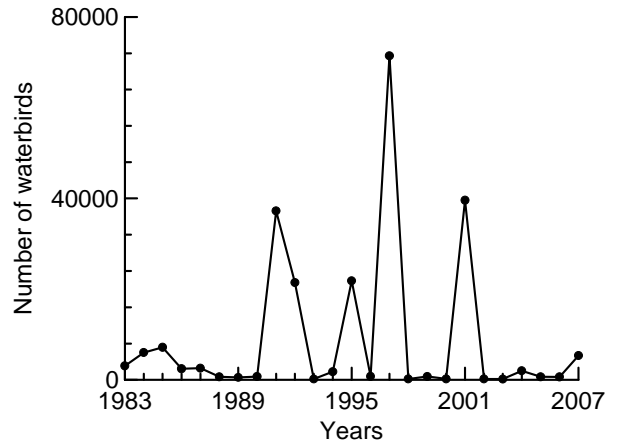
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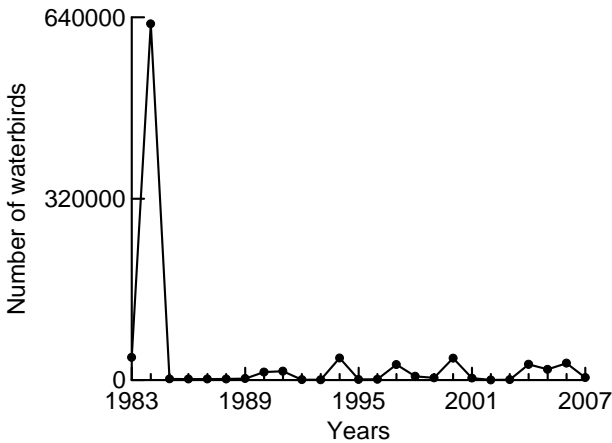
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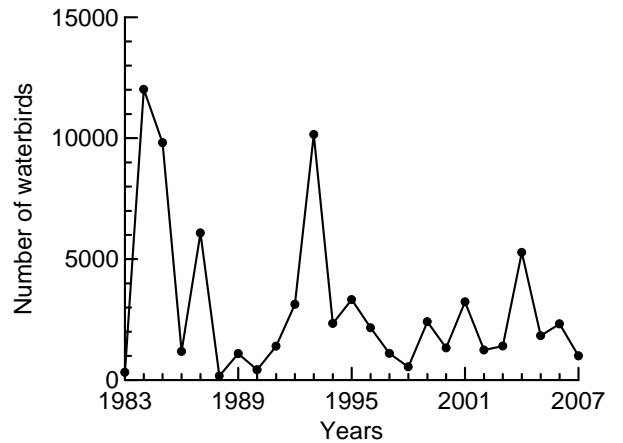
Band 8



Band 9



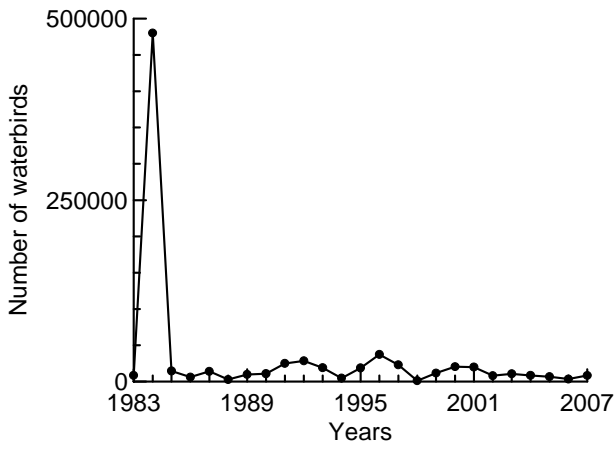
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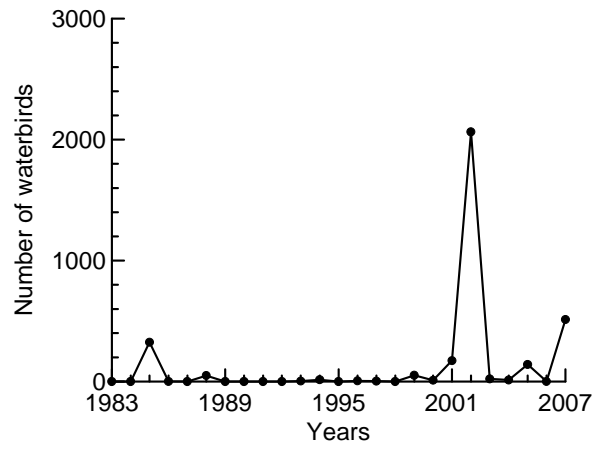
Scales vary on graphs

Figure 18. Hardhead 1-5

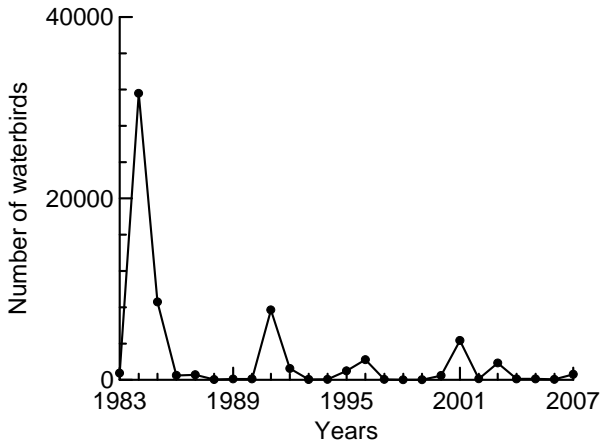
All Bands



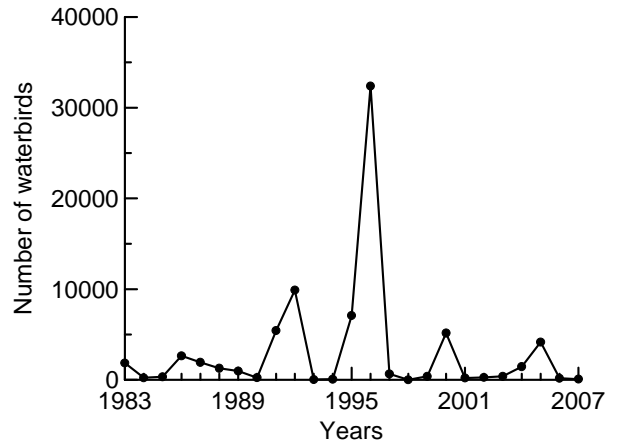
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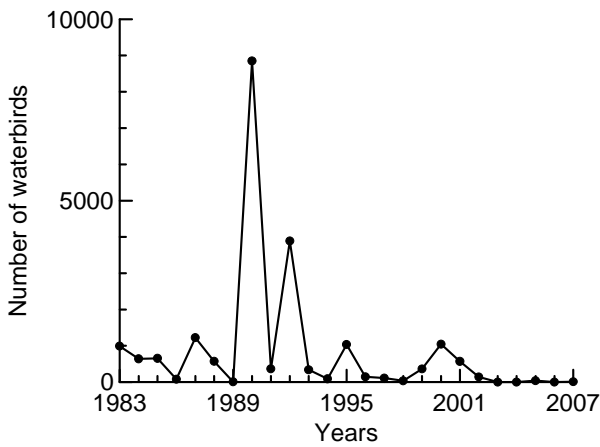
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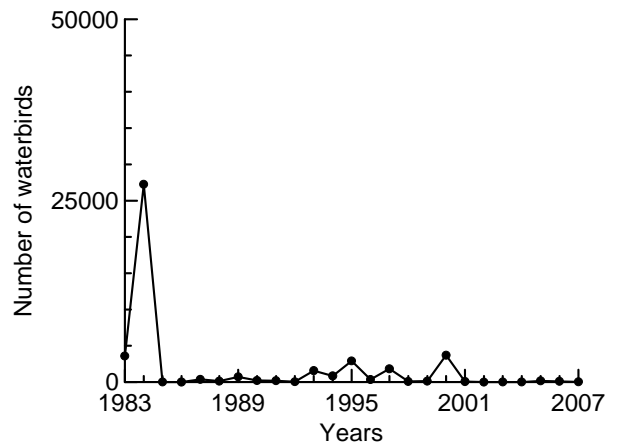
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Band 4



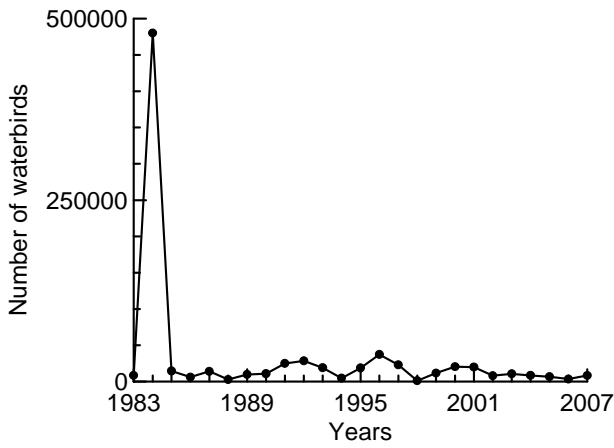
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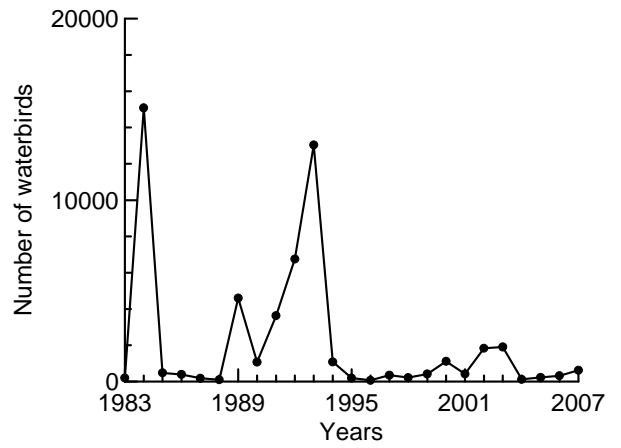
Scales vary on graphs

Figure 19. Hardhead 6-10

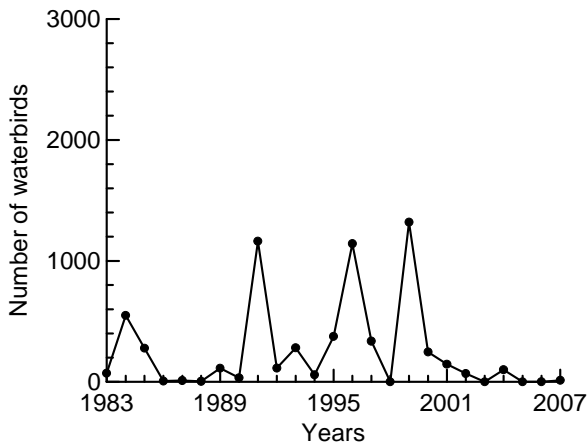
All Bands



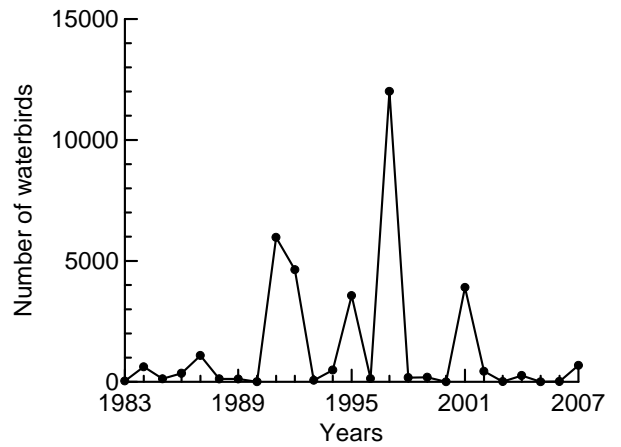
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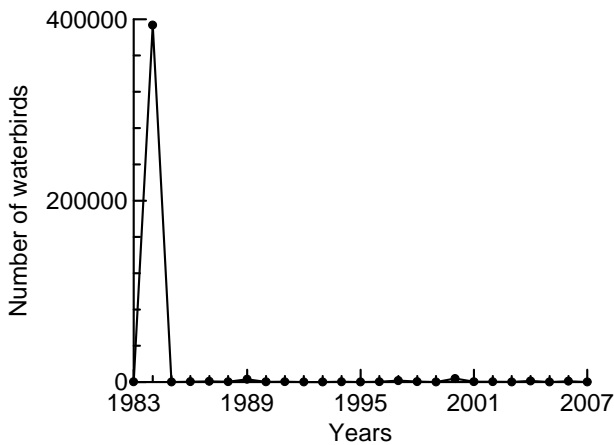
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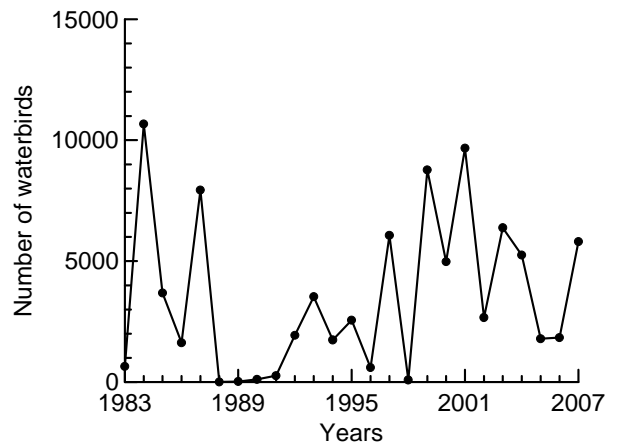
Band 8



Band 9



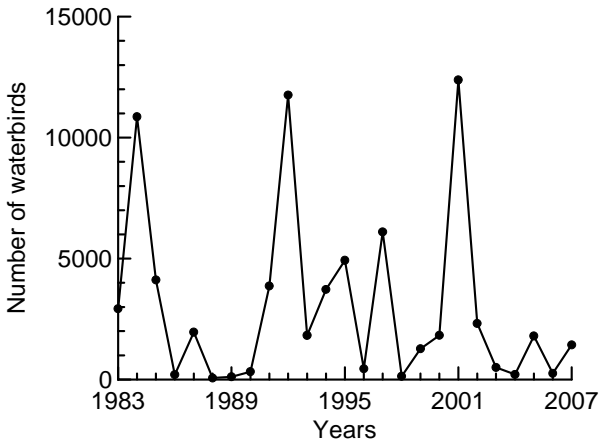
Band 10



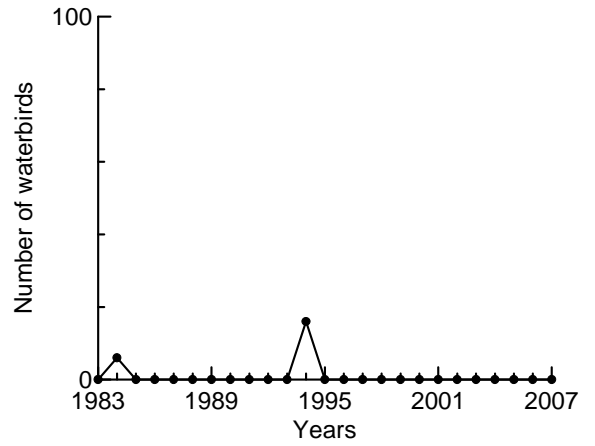
Scales vary on graphs

Figure 20. Freckled duck 1-5

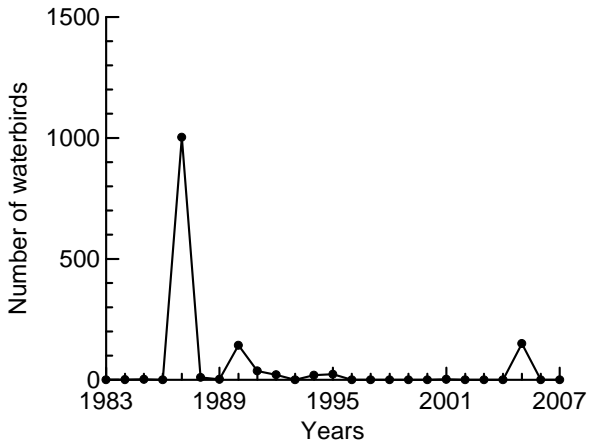
All Bands



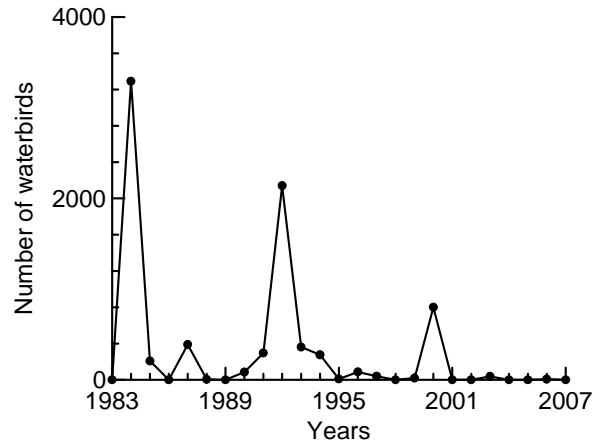
Band 1



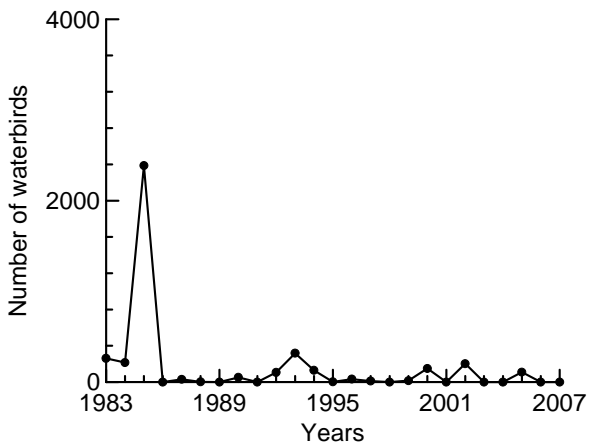
Band 2



Band 3



Band 4



Band 5

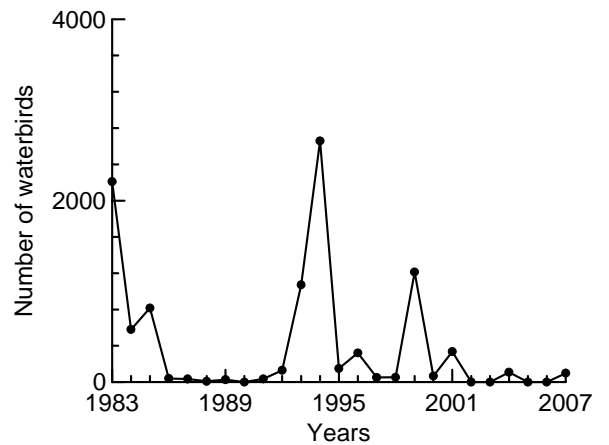
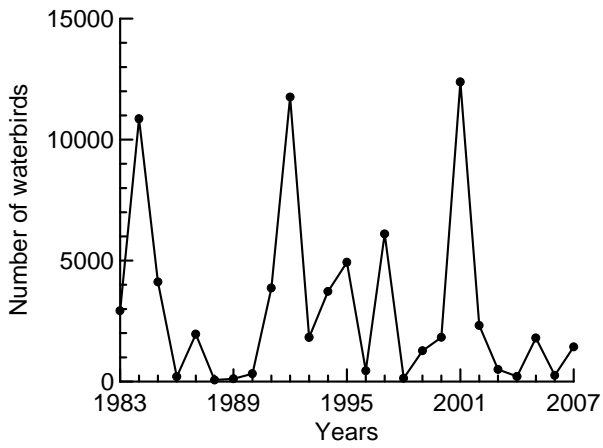
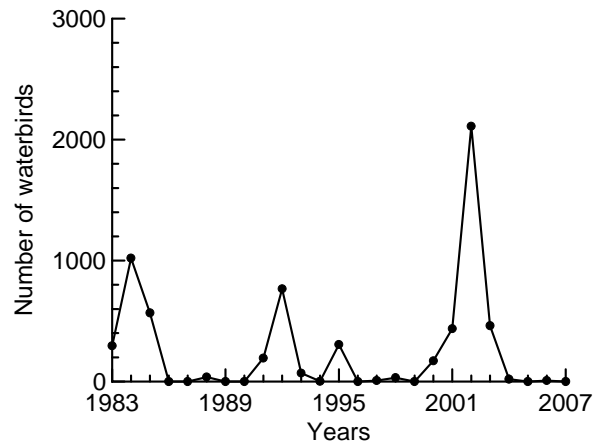


Figure 21. Freckled duck 6-10

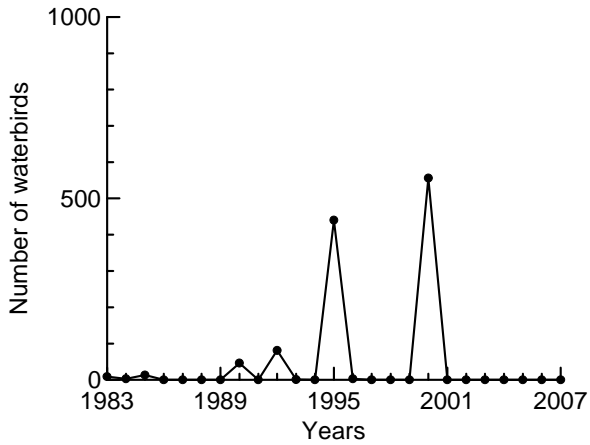
All Bands



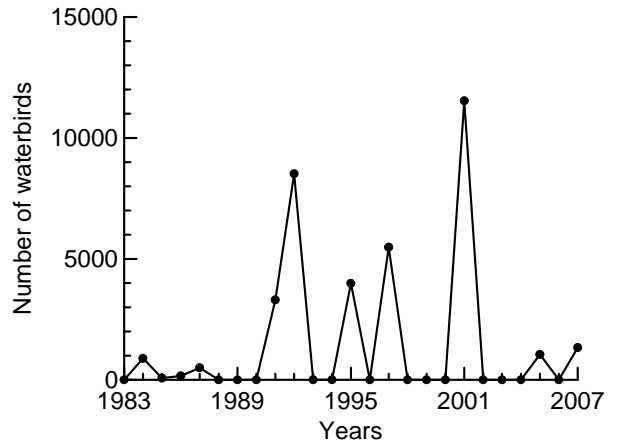
Band 6



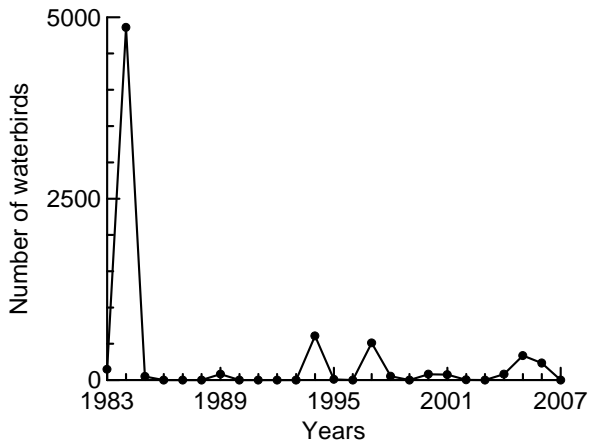
Band 7



Band 8



Band 9



Band 10

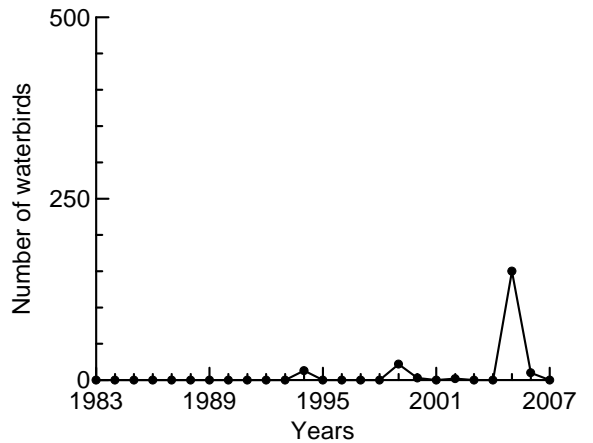


Figure 22. Australian shelduck 1-5

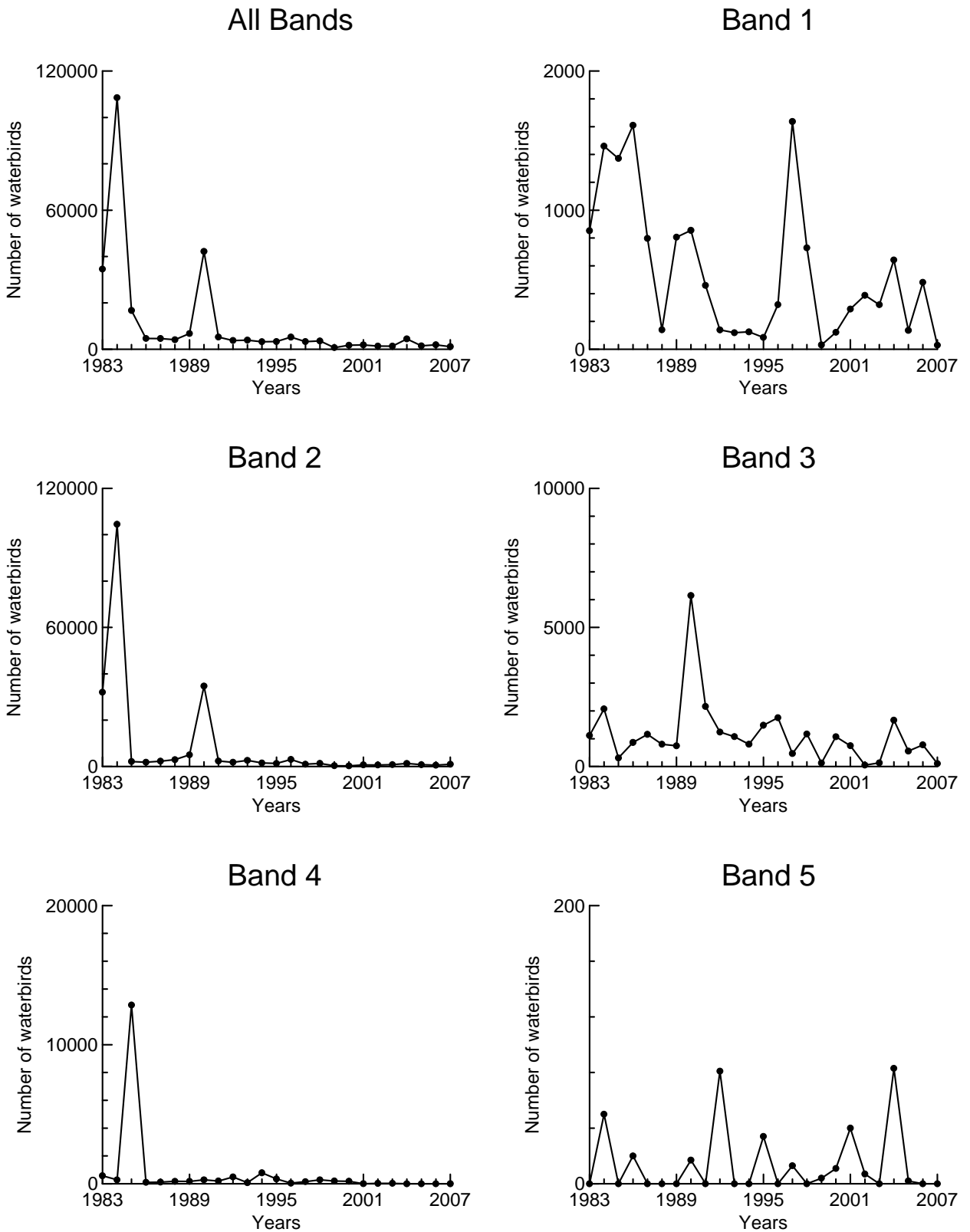


Figure 23. Australian shelduck 6-10

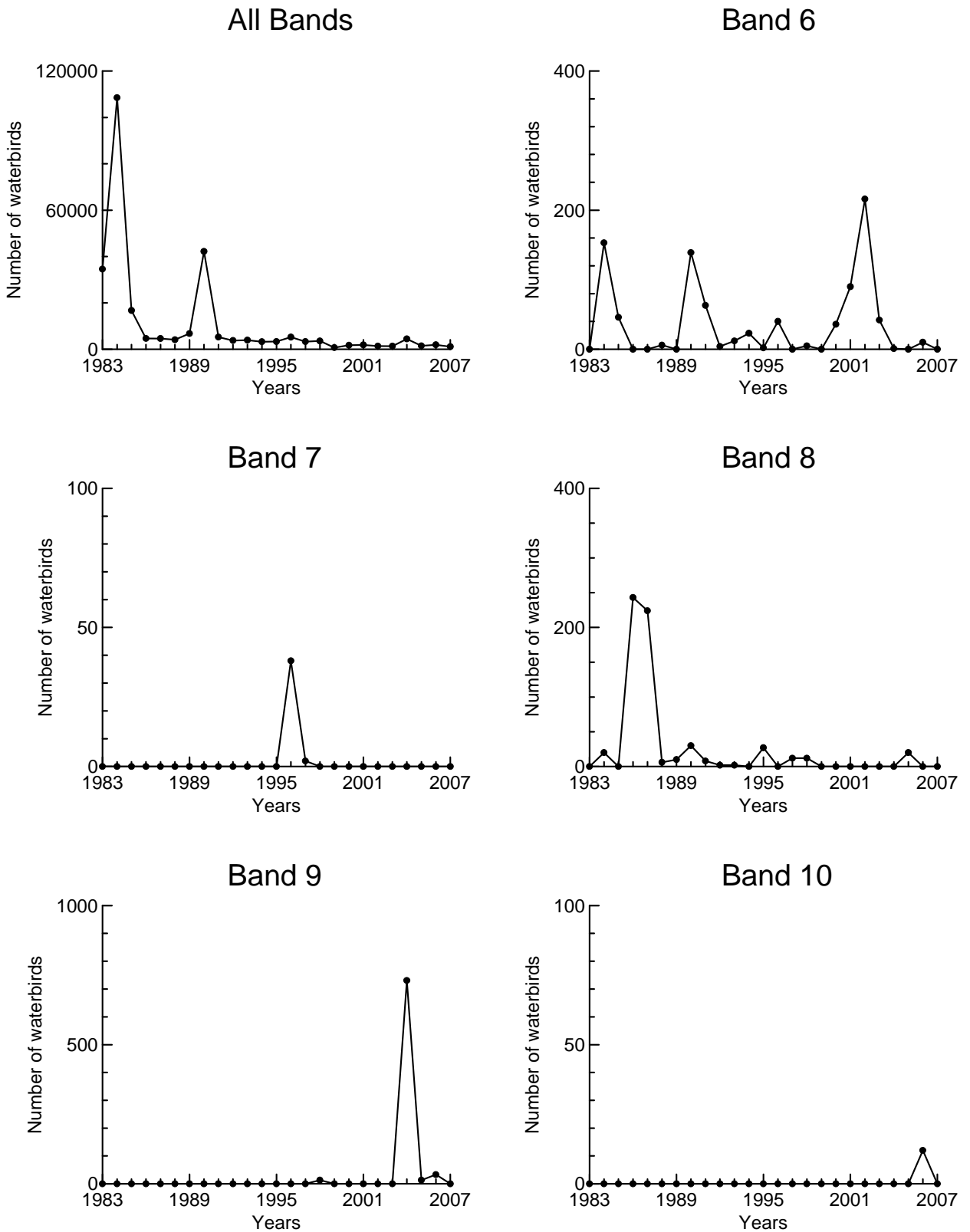
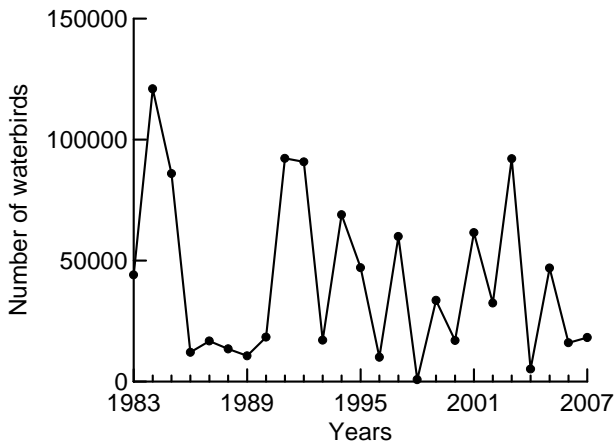
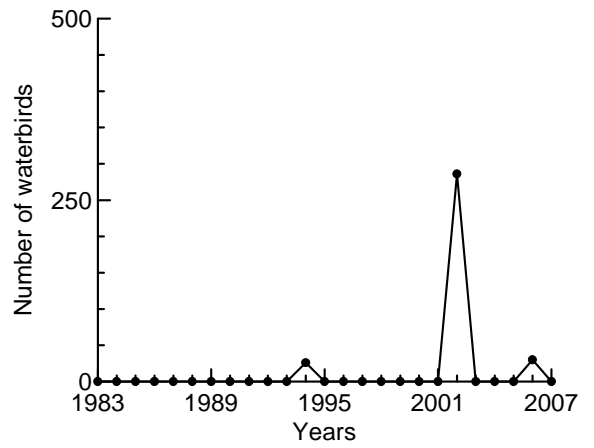


Figure 24. Pink-eared duck 1-5

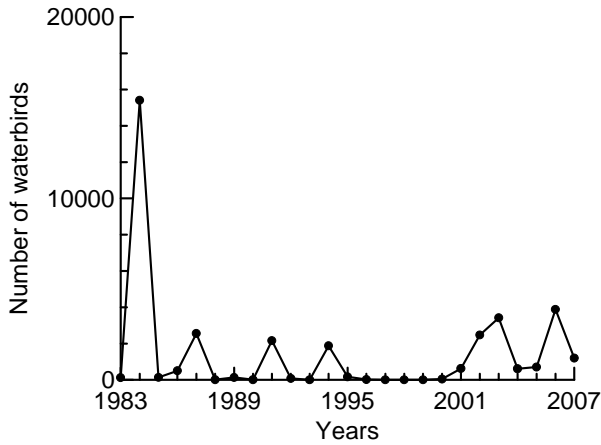
All Bands



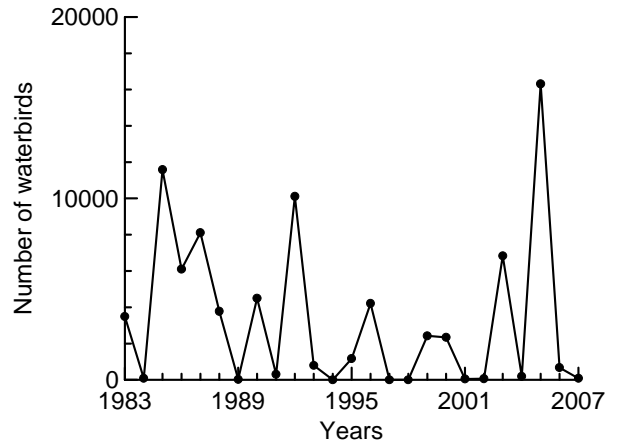
Band 1



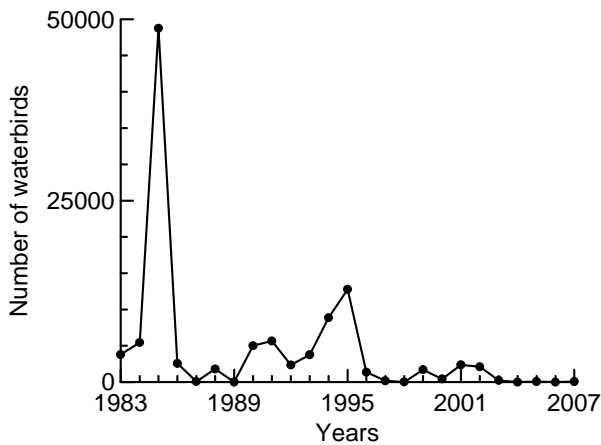
Band 2



Band 3



Band 4



Band 5

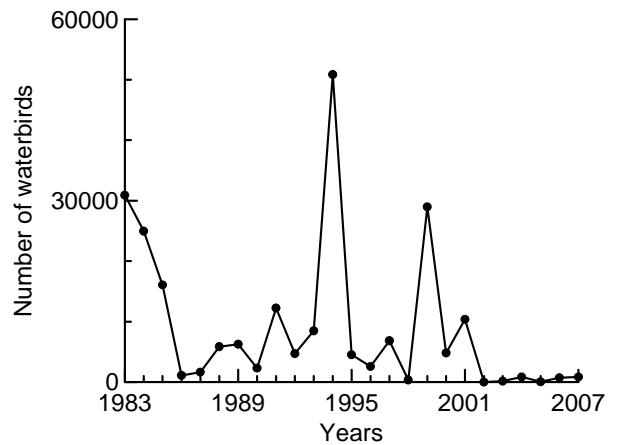


Figure 25. Pink-eared duck 6-10

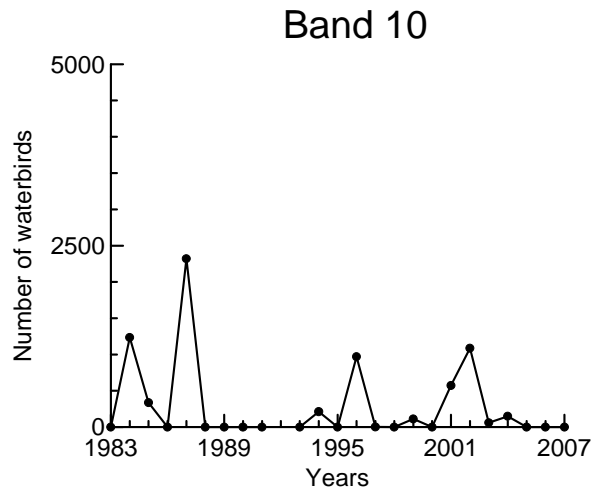
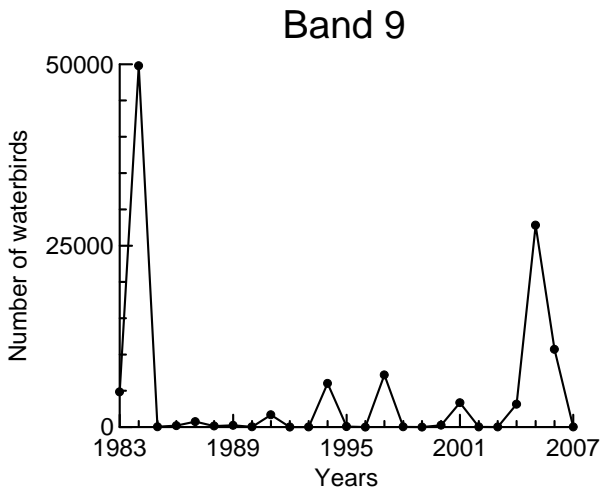
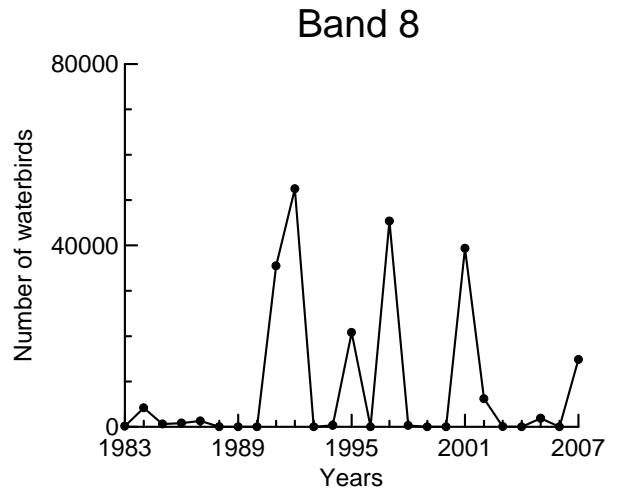
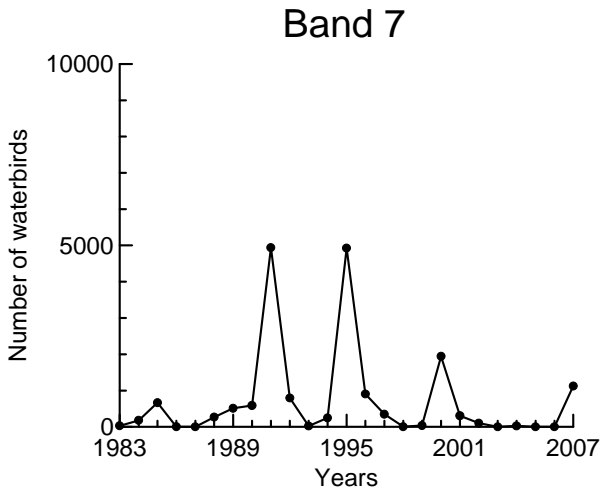
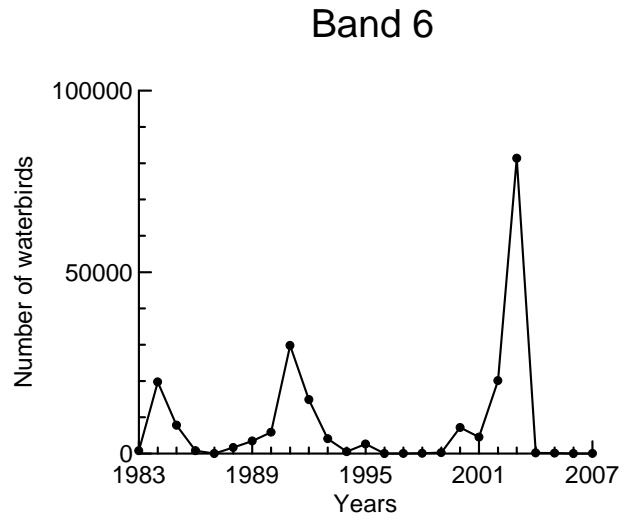
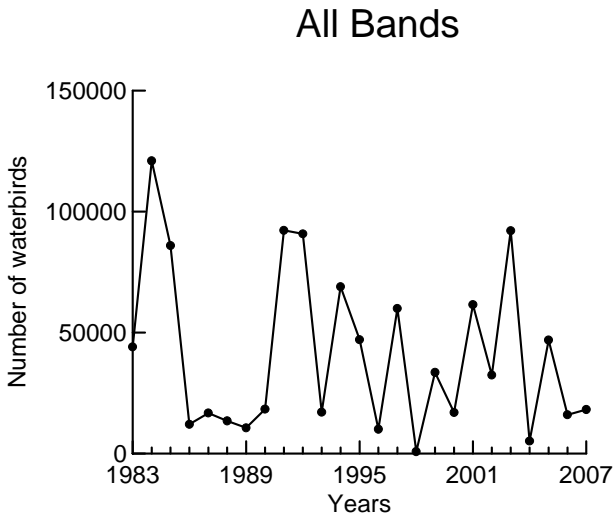
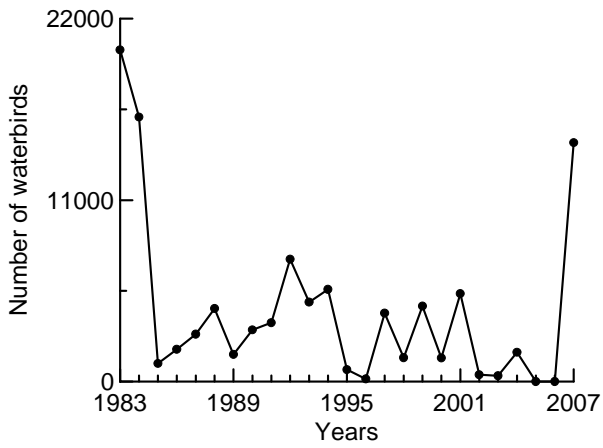
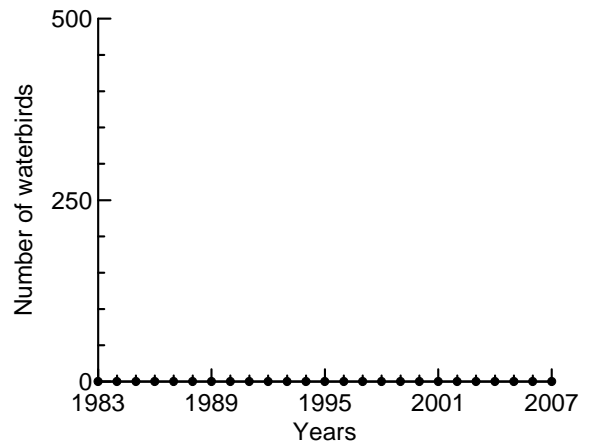


Figure 26. Plumed whistling-duck 1-5

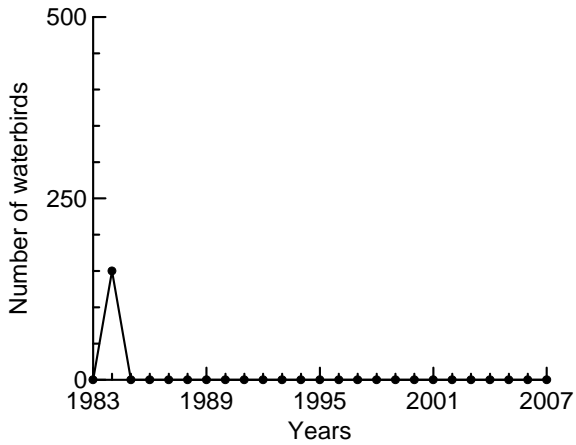
All Bands



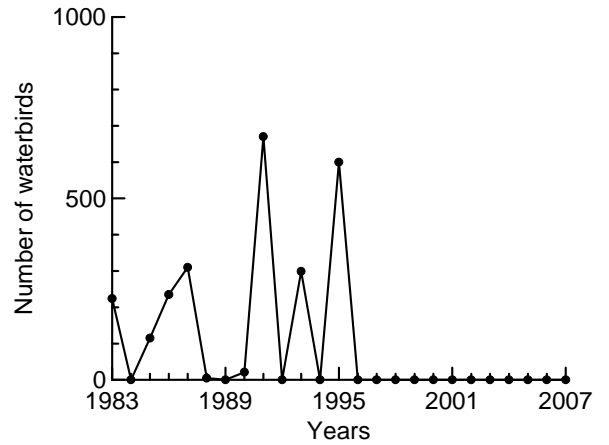
Band 1



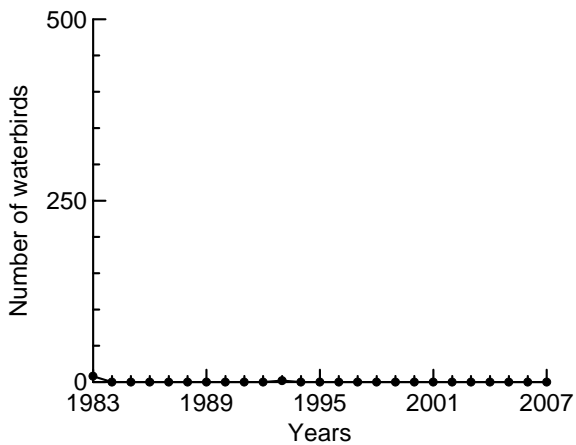
Band 2



Band 3



Band 4



Band 5

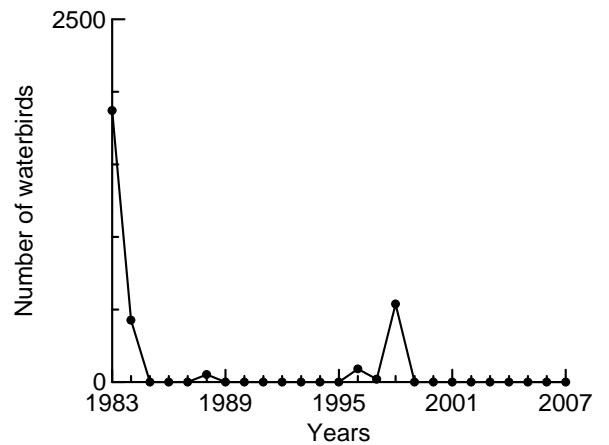
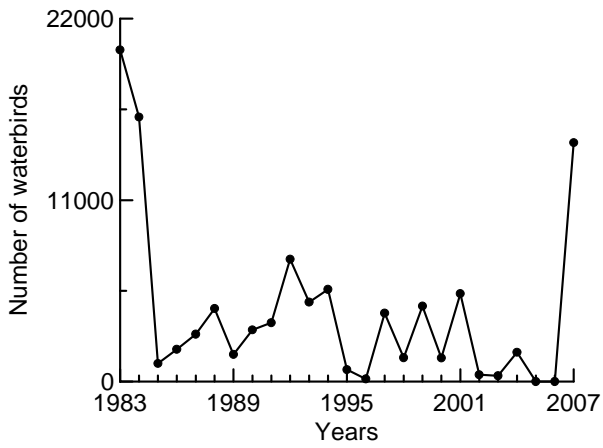
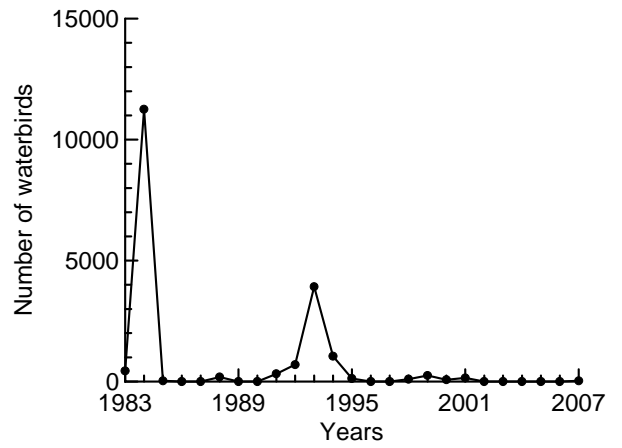


Figure 27. Plumed whistling-duck 6-10

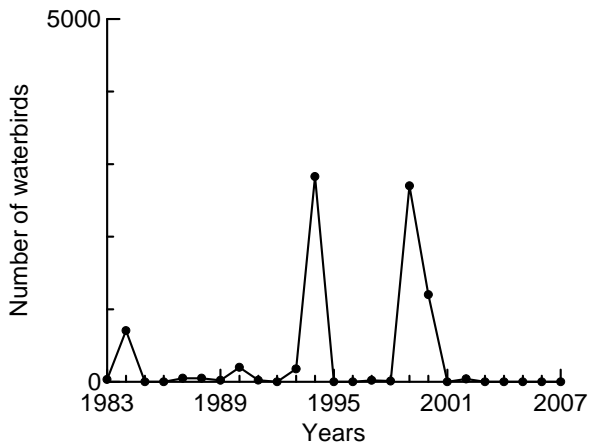
GWD All Bands



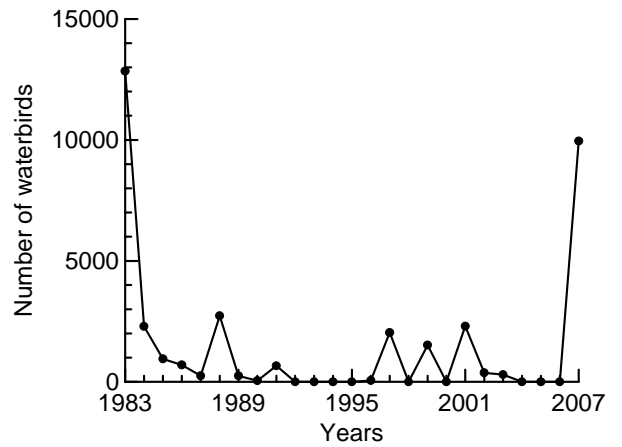
Band 6



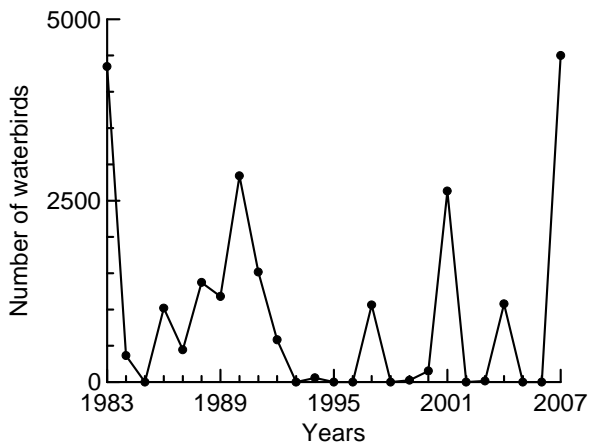
Band 7



Band 8



Band 9



Band 10

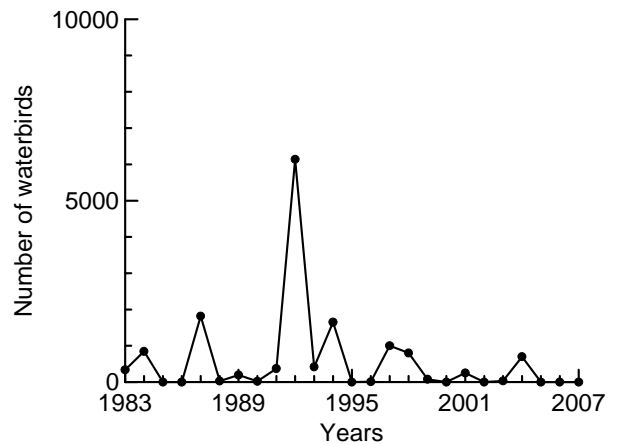
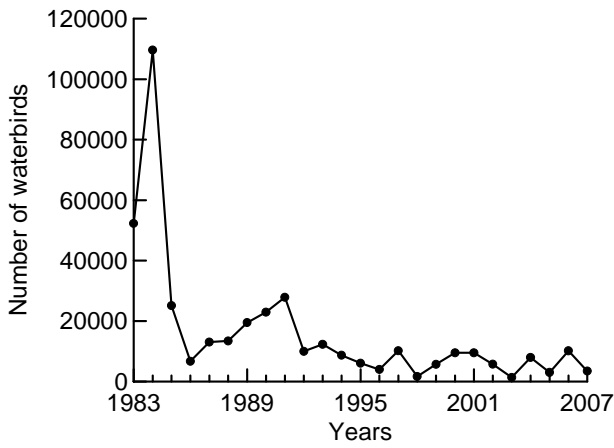
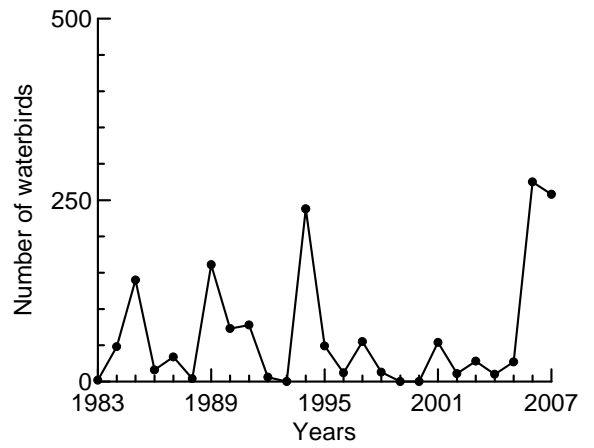


Figure 28. Australian wood duck 1-5

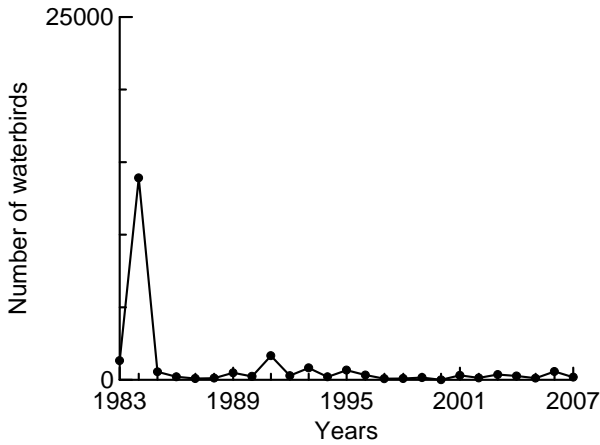
All Bands



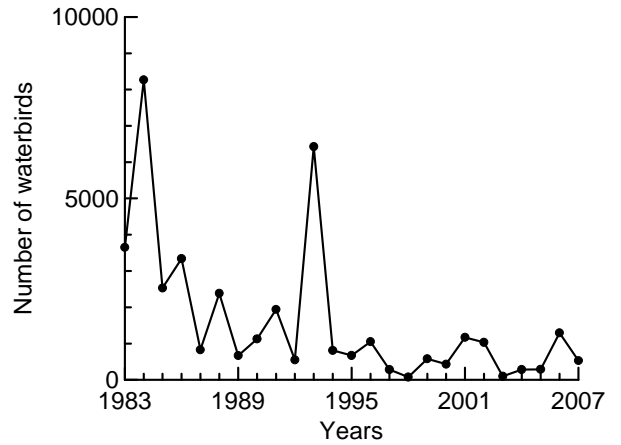
Band 1



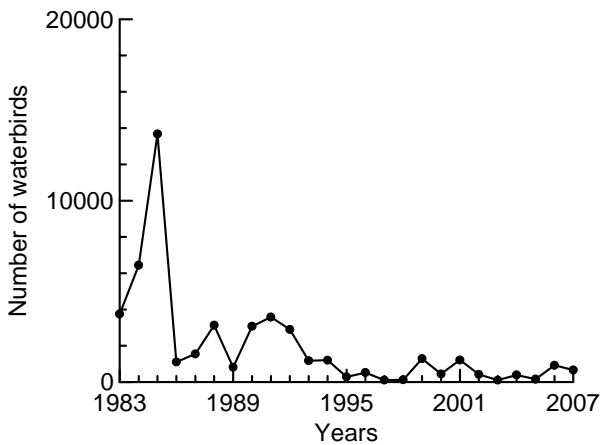
Band 2



Band 3



Band 4



Band 5

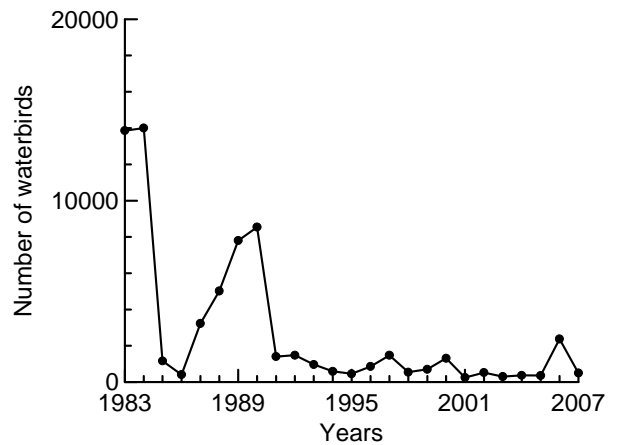
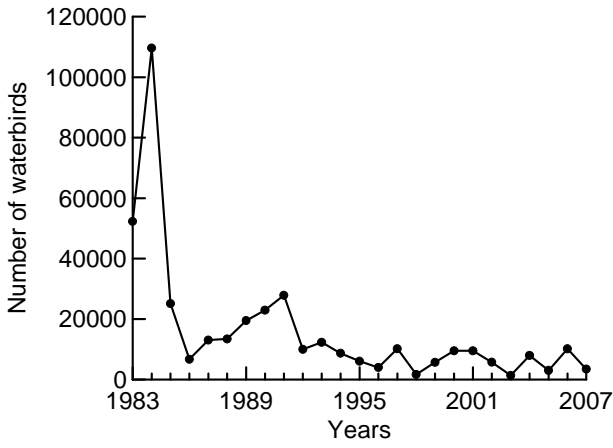
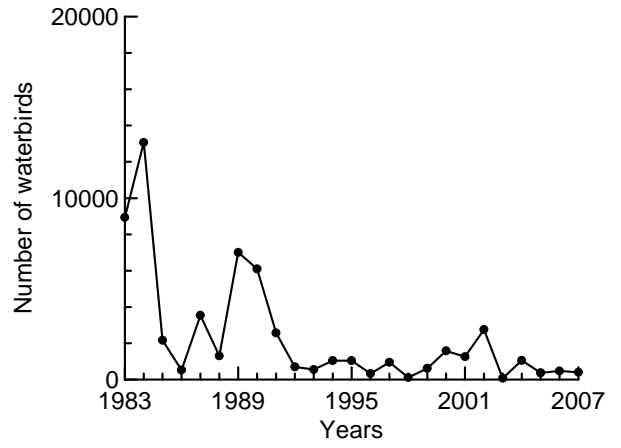


Figure 29. Australian wood duck 6-10

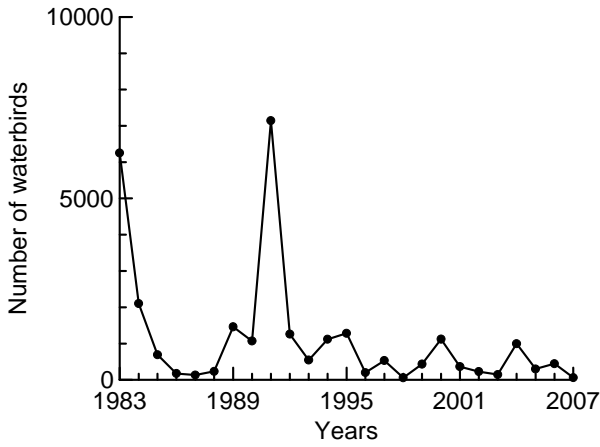
All Bands



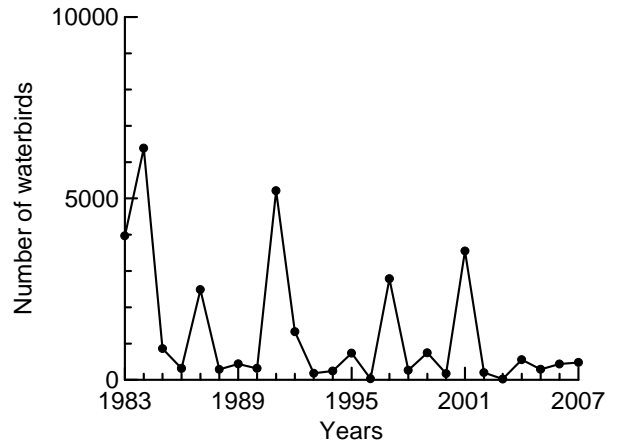
Band 6



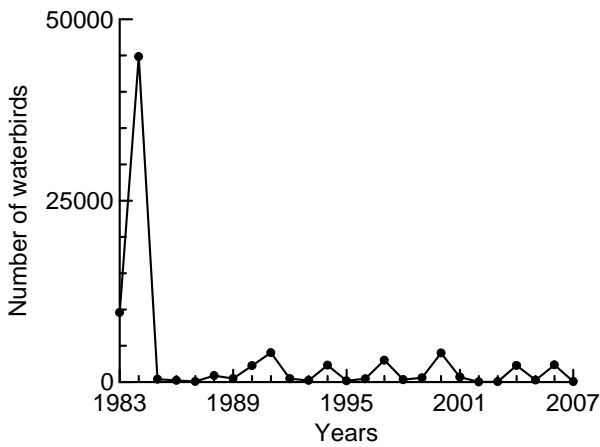
Band 7



Band 8



Band 9



Band 10

