



**Waterbird Survey of Vasse Estuary and
Wonnerup Estuary: February 2009**

**Prepared for Department of Environment and
Conservation
by Bennelongia Pty Ltd**

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Report 2009/59

Waterbird Survey of Vasse Estuary and Wonnerup Estuary: February 2009

Bennelongia Pty Ltd
64 Jersey Street
Jolimont WA 6913
www.bennelongia.com.au
ACN 124 110 167

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Client – Department of Environment and Conservation

Report	Version	Prepared by	Checked by	Submitted to Client	
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1.0 Introduction

Bennelongia was contracted to provide a summary of waterbird numbers on the Vasse Estuary and Wonnerup Estuary between 23 and 24 February 2009. The project scope was that data were to be collected by sector or subsector with the following information presented:

- date and time of survey of each sector/subsector;
- species present (all waterbirds including the "honorarys": Little Grassbird, White-fronted Chat, Swamp Harrier, Whistling Kite, Osprey, White-bellied Sea-Eagle);
- number of individuals of each species;
- breeding records (but no need to search for nests);
- any feeding observations;
- weather conditions (to the extent that they are likely to affect bird distribution or numbers);
- Wonnerup estuary sectors/subsectors to be surveyed are j (E), j(C), j (W) and i;
- Vasse estuary sectors/subsectors to be surveyed are f(N1), f(W), f(S), e and b.

2.0 Methods

Waterbird surveys were conducted at Wonnerup and Vasse Estuaries on foot on 23 February and 24 February 2009. Waterbirds were counted in sectors identified on A4 copies of aerial photographs provided by the Department of Environment and Conservation (DEC). Optics used were Leica 20-60 x 70 Televit telescope and Leica Ultravid 10 x 25 binoculars. Data were recorded in a notebook for each sector with details of start and finish times and other information pertinent to the survey – i.e. feeding, breeding and general behavioural activities of waterbirds.

A partial survey of the Wonnerup Estuary took place at dusk between 19:20 hrs and 20:15 hrs on 23 February 2009. Weather was fine but lack of visibility limited the survey to area (i) only. A complete survey of the portion of the Wonnerup Estuary that contained surface water was undertaken on 24 February between 12:55hrs and 13:45hrs.

A waterbird count of the flooded parts of Vasse Estuary was completed on 24 February between 07:30hrs and 12:30hrs. Weather was overcast and blustery. Light conditions were adequate.

The survey of Vasse Estuary began in area f (N1) at Layman Road with observations from a public jetty by telescope and binoculars. Counts continued in area f (W) at a park to the west of f (N1) and then at the Vasse floodgates, an access point on the south side of f (N1) from Ballarat Road and Webster Road. At Webster Road a foot survey was conducted, working from west to east in a clockwise direction around the waterbody. The survey finished at a point opposite Webster Road on the west side of the Estuary.

3.0 Results

3.1 Wonnerup Estuary

A total of 16 waterbird species (as defined by the DEC project scope) was recorded at Wonnerup Estuary during the two surveys. Waterbirds were present in singles or small groups along the flooded portions of the estuary (see attached Excel file).

Alan Clarke reported 120 Red-capped Plover on February 24 between 08:30hrs and 08:45hrs at area j(C) that were not recorded during the count in that area on the same date between 13:30hrs and 13:45 hrs. This count has been included (highlighted in red) in the attached Excel file as additional data.

White-faced Heron were commonly found foraging in shallows along the watercourse. These birds would fly ahead of the counter and congregate with others some distance ahead. The total number recorded for the whole of the flooded portion of Wonnerup was 22 with 13 recorded in area (i), 3 in area j (W) and 6 in area j (C).

Moderately high numbers of Common Greenshank were recorded foraging along the edges of the wetland and in the shallows.

3.2 Vasse Estuary

A total of 28 species of waterbird was recorded on the Vasse Estuary on 24 February. Waterbirds were observed in small numbers along f (N1) foraging and loafing. Towards the west in a shallow bend of the inlet at f (W), several hundred stilts, gulls and ducks were recorded foraging in the open water and loafing on exposed tube worm islands. On the same islands small numbers of shorebirds, notably Grey Plover were foraging or loafing.

Buff-banded Rails were recorded foraging along the edges of the rushes at f(W) and foraging on a lawn bank at f (N1) in the Vasse River.

Moderately high numbers of Red-necked Stint (683) dominated counts of the open water area in the Vasse Estuary at area (e) and were recorded foraging in shallows towards Malbup Creek and along the eastern edges. These birds were often associated with Red-capped Plover (198) and Common Greenshank (46). Pacific Black Duck (420), Grey Teal (80) and Australian Shelduck (12) were recorded foraging and loafing around the open waterbody in (e). Black-winged Stilt (500) were recorded in open groups foraging in the shallows and in a tight flock loafing in the centre of the waterbody associated with Red-necked Avocet (60).

There was only one breeding record -an account of a distraction display by a Red-capped Plover on exposed mud about 10 metres from the water's edge near Malbup Creek.

Silver Gulls were common around most of the Vasse Estuary and were recorded foraging in the shallows (puddling or pecking), loafing along the edges of the waterbody or on small islands in the wetland and flying overhead. A Franklin's Gull reported near Malbup Creek in early February was not recorded. Juvenile Crested Terns were recorded loafing on tube-worm islands in F (w).

Table 1. Explanatory notes for Excel spreadsheet.

Location	Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding
Wonnerup Estuary	Red-capped Plover	<i>Charadrius ruficapillus</i>	23/02/09	10:01	1	e	Distraction display		dd
	Red-capped Plover	<i>Charadrius ruficapillus</i>	23/02/09	10:01	76	e	Foraging in shallows and at water's edge	Pecking, chasing	

- Location - Either Wonnerup Estuary or Vasse Estuary
- Common Name - Common names used are derived from The Field Guide to the Birds of Australia, Graham Pizzey and Frank Knight
- Scientific names - These are also drawn from Pizzey and Knight
- Date – Is the date the sector was surveyed
- Time - The start time when the sector was surveyed is recorded at the top of the sector record. The finish time is recorded at the bottom of the sector record
- No – Numbers of waterbird are provided in two forms in the attached excel file. Sheet 1 provides an account of waterbirds as they were recorded (chronologically) during surveys. Some species are recorded multiple times within a sector to adequately describe the different activities or behaviour (see Table 1)
- Sheet 2 in the excel file represents the same data (species and numbers of individuals) with replicates of species removed. Total numbers for each species for each sector are recorded here
- Site - This represents the sector identifier provided by DEC (Jim Lane) on colour photocopies of the Vasse and Wonnerup Estuaries
- Habit – Is a reference to the observed bird's or birds' activity at the time of observation
- Behaviour – This is usually a reference to specific feeding behaviour such as dabbling or pecking at the surface
- Breeding – Breeding records were provided when observed. No nest searching was undertaken. Distraction displays are considered sufficient evidence of attempted or successful nesting effort.

4.0 References

Lane, J., 2009, DEC, Guidance notes for waterbird survey for Vasse Estuary and Wonnerup Estuary.

Pizzey,G., Knight, F. 1999. The Graham Pizzey and Frank Knight Field Guide to Birds of Australia, HarperCollins Publishers, Sydney.

SORTED LIST OF SPECIES FOR EACH WETLAND

Vasse

Australian Pelican
Australian Shelduck
Australian White Ibis
Black Swan
Black-winged Stilt
Buff-banded Rail
Caspian Tern
Common Greenshank
Common Sandpiper
Crested Tern
Curlew Sandpiper
Eurasian Coot
Great Egret
Grey Plover
Grey Teal
Little Black Cormorant
Little Pied Cormorant
Musk Duck
Pacific Black Duck
Pied Cormorant
Purple Swamp Hen
Red-capped Plover
Red-necked Avocet
Red-necked Stint
Silver Gull
Whistling Kite
White-faced Heron
White-fronted Chat

28 Species

Wonnerup

Australian Pelican
Australian Shelduck
Black Swan
Buff-banded Rail
Common Greenshank
Common Sandpiper
Grey Teal
Little Egret
Little Pied Cormorant
Pacific Black Duck
Red-capped Plover
Silver Gull
White -faced Heron
White-fronted Chat

14 Species

VW Total = 29 Species

Chronological summary of waterbird counts_Vasse Wonnerup System

Wonnerup Estuary

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding
White-faced Heron	<i>Ardea novaehollandia</i>	23/02/2009	19:20	1	i	Foraging in samphire	hunting	
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	23/02/2009		3	i	Roosting in trees at waters edge		
Pacific Black Duck	<i>Anas superciliosa</i>	23/02/2009		27	i	Foraging and roosting at waters edge		
Grey Teal	<i>Anas gracilis</i>	23/02/2009		2	i	Foraging	dabbling	
Grey Teal	<i>Anas gracilis</i>	23/02/2009		7	i	Loafing at water's edge		
Common Sandpiper	<i>Actitis hypoleucos</i>	23/02/2009		1	i	Foraging at water's edge	chasing, pecking	
Buff-banded Rail	<i>Gallirallus phillipensis</i>	23/02/2009		1	i	Foraging at water's edge		
Pacific Black Duck	<i>Anas superciliosa</i>	23/02/2009		2	i	Foraging at water's edge	dabbling pecking at surface	
Common Greenshank	<i>Tringa nebularia</i>	23/02/2009		4	i	Foraging in shallows		
Australian Pelican	<i>Pelecanus conspicillatus</i>	23/02/2009		4	i	Loafing at water's edge		
Black Swan	<i>Cygnus atratus</i>	23/02/2009		4	i	Carcasses at waters edge		
Little Egret	<i>Egretta garzetta</i>	23/02/2009		1	i	Flushed from water's edge		
White-fronted Chat	<i>Epthianura albifrons</i>	23/02/2009		2	i	Loafing on top of samphire		
Pacific Black Duck	<i>Anas superciliosa</i>	23/02/2009		8	i	Loafing at water's edge		
White -faced Heron	<i>Ardea novaehollandia</i>	23/02/2009		10	i	Foraging in shallows	hunting	
Grey Teal	<i>Anas gracilis</i>	23/02/2009		4	i	Loafing at water's edge		
White-faced Heron	<i>Ardea novaehollandia</i>	23/02/2009		2	i	Foraging in shallows	hunting	
Australian Shelduck	<i>Tadorna tadornoides</i>	23/02/2009		3	i	Overhead flying south		
Red-capped Plover	<i>Charadrius ruficapillus</i>	23/02/2009	20:15	2	i	Foraging in shallows	pecking	
Sub total				88				
Common Sandpiper	<i>Actitis hypoleucos</i>	24/02/2009	12:55	1	i	Foraging at water's edge	pecking	
Australian Pelican	<i>Pelecanus conspicillatus</i>	24/02/2009		4	i	Loafing at water's edge		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		18	i	Loafing at water's edge		
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009		2	i	Loafing at water's edge		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		1	i	flushed from water's edge		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		12	i	Loafing at water's edge		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		9	l	Loafing in open water		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		1	i	Foraging at water's edge	chasing, pecking	
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		11	i	Foraging in channel	fishing	

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		2	i	Overhead flying south		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		2	i	Foraging in shallows	chasing,	
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		6	i	Foraging in shallows	pecking	
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		4	i	Foraging in shallows	dabbling	
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009		6	i	Foraging on exposed mud	pecking at	
Common Sandpiper	<i>Actitis hypoleucos</i>	24/02/2009		1	i	Loafing in channel on an island	surface	

Sub total **80**

White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009	13:20	6	Jw	Foraging on exposed mud	pecking at	
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		4	Jw	Foraging in shallows	surface	
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		4	Jw	Foraging in shallows	chasing,	
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		16	Jw	Foraging in shallows	pecking	
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		4	Jw	Loafing	hunting	
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		6	Jw	Foraging on exposed mud	pecking	

Australian Pipit	<i>Anthus australis</i>	24/02/2009		4	Jw	Flushed from vegetation on edge of channel		
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Sub total **44**

White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009	13:30	22	Jc	Flushed from shallows		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009	13:45	26	Jc	Loafing, Foraging on exposed mud	pecking	
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009	AM??	120	Jc	?	Alan Clarke	record

Sub total **168**

Vasse Estuary

Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009	7:30	16	F(N1)	Overhead flying along inlet		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		3	F(N1)	Overhead flying along inlet		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		2	F(N1)	Foraging in shallows	dabbling	
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		1	F(N1)	Foraging in shallows		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		12	F(N1)	Foraging at water's edge and on lawn		
Australian Pelican	<i>Pelecanus conspicillatus</i>	24/02/2009		4	F(N1)	Loafing in open water		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		12	F(N1)	Loafing in open water		
Buff-banded Rail	<i>Gallirallus philipensis</i>	24/02/2009		1	F(N1)	Foraging on lawn		
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		1	F(N1)	Loafing on stag		
Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	24/02/2009		1	F(N1)	Overhead flying along inlet to south		
Black Swan	<i>Cygnus atratus</i>	24/02/2009		2	F(N1)	Loafing in open water		

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding
Eurasian Coot	<i>Fulica atra</i>	24/02/2009	8:05	3	F(N1)	Foraging along inlet banks		
Sub total				58				
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009	8:10	5	F(w)	Foraging in open water		
Black-winged Stilt	<i>Himantopus himantopus</i>	24/02/2009		52	F(w)	Foraging and Loafing in shallows		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		38	F(w)	Foraging in open water	dabbling	
Grey Teal	<i>Anas gracilis</i>	24/02/2009		42	F(w)	Foraging in shallows and Loafing on islands		
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009		8	F(w)	Loafing on islands		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		3	F(w)	Foraging in shallows		
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009		1	F(w)	Foraging in marsh		
Caspian Tern	<i>Sterna caspia</i>	24/02/2009		1	F(w)	Loafing on mud island		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		18	F(w)	Loafing in open water		
Purple Swamp Hen	<i>Porphrio porphrio</i>	24/02/2009		1	F(w)	Foraging around muddy edges		
						Loafing in open water and on tube-worm		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		162	F(w)	islands		
Crested Tern	<i>Sterna bergii</i>	24/02/2009		4	F(w)	Loafing on mud island		
Curlew Sandpiper	<i>Calidris ferruginea</i>	24/02/2009		1	F(w)	Loafing on mud island		
						Loafing in open water and on tube-worm		
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009		66	F(w)	islands		
Grey Plover	<i>Pluvialis squatarola</i>	24/02/2009		6	F(w)	Foraging on tube-worm islands		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		1	F(w)	Foraging in shallows		
Purple Swamp Hen	<i>Porphrio porphrio</i>	24/02/2009		2	F(w)	Foraging along edge of rushes		
Eurasian Coot	<i>Fulica atra</i>	24/02/2009		12	F(w)	Foraging around margins		
Black-winged Stilt	<i>Himantopus himantopus</i>	24/02/2009		264	F(w)	Foraging in shallows		
Buff-banded Rail	<i>Gallirallus phillipensis</i>	24/02/2009		2	F(w)	Foraging along water's edges		
Musk Duck	<i>Biziura lobata</i>	24/02/2009		1	F(w)	Loafing on open water		
Black Swan	<i>Cygnus atratus</i>	24/02/2009		13	F(w)	Loafing on open water		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		6	F(w)	Foraging around edges		
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		1	F(w)	Overhead		
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009		1	F(w)	Foraging in shallows		
Black Swan	<i>Cygnus atratus</i>	24/02/2009		2	F(w)	Loafing in open water		
Eurasian Coot	<i>Fulica atra</i>	24/02/2009	8:35	3	F(w)	Foraging in open water		
Sub total				716				
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009	8:40	1	F(N1)	Foraging at waters edge		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		1	F(N1)	Foraging at waters edge		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		18	F(N1)	Loafing in open water		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		3	F(N1)	Loafing in open water		
Australian Pelican	<i>Pelecanus conspicillatus</i>	24/02/2009		5	F(N1)	Foraging at water's edge		

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		11	F(N1)	Loafing in trees on water's edge		
Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	24/02/2009		2	F(N1)	Loafing in trees on water's edge		
Purple Swamp Hen	<i>Porphrio porphrio</i>	24/02/2009		1	F(N1)	Foraging at water's edge in rushes		
Great Egret	<i>ardea alba</i>	24/02/2009		1	F(N1)	Loafing high in eucalypt at water's edge		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009	9:00	26	F(N1)	Loafing under grass ledge at water's edge		
Sub total				69				
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009	9:10	156	F(s)	Foraging and loafing		
Grey teal	<i>Anas gracilis</i>	24/02/2009		32	F(s)	Foraging and loafing		
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009		1	F(s)	Foraging in shallows		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		11	F(s)	Foraging and Loafing		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		15	F(s)	Foraging and Loafing in shallows		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		4	F(s)	Foraging in shallows on mud banks		
Common Sandpiper	<i>Actitis hypoleucos</i>	24/02/2009		1	F(s)	Foraging on mud bank		
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		1	F(s)	Loafing on mud bank		
Red-necked Stint	<i>Calidris ruficollis</i>	24/02/2009		49	F(s)	Foraging along tide edge		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		12	F(s)	Foraging along tide edge		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		2	F(s)	Foraging along tide edge		
Grey Plover	<i>Pluvialis squatarola</i>	24/02/2009		2	F(s)	Foraging along tide edge		
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009		6	F(s)	Foraging on exposed mudflat		
Whistling Kite	<i>Haliastur sphenurus</i>	24/02/2009		3	F(s)	Hawking over open water and marshland		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		4	F(s)	Puddling at water's edge		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		133	F(s)	Loafing in shallows on north side		
Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		3	F(s)	Overhead flying west		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		3	F(s)	Loafing at water's edge with Silver Gulls		
Whistling Kite	<i>Haliastur sphenurus</i>	24/02/2009		2	F(s)	On the ground scavenging a bird carcass		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		2	F(s)	Flushed from edge of marshland		
Pied Cormorant	<i>Phalacrocorax varius</i>	24/02/2009		2	F(s)	Perched on sticks in open water		
Red-necked Stint	<i>Calidris ruficollis</i>	24/02/2009		68	F(s)	Foraging in shallows at tide edge		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009	10:00	3	F(s)	Foraging with stint		
Sub total				515				
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009	10:01	8	e	Flushed from edge of marshland		
Red-necked Stint	<i>Calidris ruficollis</i>	24/02/2009		148	e	Foraging at tide edge and in shallows		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		36	e	Foraging in shallows and loafing		
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009		12	e	Loafing around water's edge		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		46	e	Foraging in shallows		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		420	e	Foraging in shallows		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		80	e	Foraging in shallows		
Black-winged Stilt	<i>Himantopus himantopus</i>	24/02/2009		500	e	Foraging in shallows		

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009		4	e	Foraging on exposed mudflat -pecking		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		76	e	Foraging in shallows and at water's edge	pecking, chasing	
Red-necked Stint	<i>Calidris ruficollis</i>	24/02/2009		535	e	Foraging in shallows at southern end		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		1	e	Flushed from edge of marshland		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		1	e	Distraction display		dd
Red-necked Avocet	<i>Recurvirostra novaehollandia</i>	24/02/2009		60	e	Loafing in centre of main water body Foraging on exposed mudflats at southern		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		121	e	end		
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009	12:30	4		Foraging on exposed mudflat		
Sub total				2052				

Waterbird summary without species replicates

Total Numbers of Waterbirds (Combined W+V)

3790

Wonnerup Estuary

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding.	
Australian Pelican	<i>Pelecanus conspicillatus</i>	23/02/2009	19:20	4	i	Loafing at water's edge			
Australian Shelduck	<i>Tadorna tadornoides</i>	23/02/2009		3	i	Overhead flying south			
Black Swan	<i>Cygnus atratus</i>	23/02/2009		4	i	Carcasses at waters edge			
Buff-banded Rail	<i>Gallirallus phillipensis</i>	23/02/2009		1	i	Foraging at water's edge			
Common Greenshank	<i>Tringa nebularia</i>	23/02/2009		4	i	Foraging in shallows	pecking at surface chasing,		
Common Sandpiper	<i>Actitis hypoleucos</i>	23/02/2009		1	i	Foraging at water's edge	pecking		
Grey Teal	<i>Anas gracilis</i>	23/02/2009		13	i	Foraging and loafing	dabbling		
Little Egret	<i>Egretta garzetta</i>	23/02/2009		1	i	Flushed from water's edge			
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	23/02/2009		3	i	Roosting in trees at waters edge Foraging, loafing,roosting at waters edge			
Pacific Black Duck	<i>Anas superciliosa</i>	23/02/2009		37	i	edge			
Red-capped Plover	<i>Charadrius ruficapillus</i>	23/02/2009		2	i	Foraging in shallows	pecking		
White -faced Heron	<i>Ardea novaehollandia</i>	23/02/2009		13	i	Foraging in shallows and samphire	hunting		
White-fronted Chat	<i>Epthianura albifrons</i>	23/02/2009	20:15	2	i	Loafing on top of samphire			
				88					
Australian Pelican	<i>Pelecanus conspicillatus</i>	24/02/2009	12:55	4	i	Loafing at water's edge			
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009		2	i	Loafing at water's edge	chasing,		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		4	i	flushed from water's edge, foraging	pecking		
Common Sandpiper	<i>Actitis hypoleucos</i>	24/02/2009		2	i	Foraging at water's edge, loafing	pecking		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		18	i	Loafing at water's edge			
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		25	i	Loafing at water's edge, foraging			
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		6	i	Foraging in shallows			
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		13	i	Foraging in channel , overhead	fishing pecking at surface		
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009	13:20	6	i	Foraging on exposed mud	surface		
				80					

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding.
Australian Pipit	<i>Anthus australis</i>	24/02/2009	13:20	4	Jw	Flushed from vegetation on edge of channel		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		4	Jw	Foraging in shallows	chasing,	
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		4	Jw	Loafing	pecking	
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		6	Jw	Foraging on exposed mud	pecking	
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		4	Jw	Foraging in shallows		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		16	Jw	Foraging in shallows	hunting	
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009	13:45	6	Jw	Foraging on exposed mud	pecking at surface	
				44				
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009	13:45	26	Jc	Loafing, Foraging on exposed mud	pecking	
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009	AM??	120	Jc	?	Alan Clarke record	
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009	13:30	22	Jc	Flushed from shallows		
				168				
Sub total				380				

Vasse Estuary

Australian Pelican	<i>Pelecanus conspicillatus</i>	24/02/2009	7:30	4	F(N1)	Loafing in open water		
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009		16	F(N1)	Overhead flying along inlet		
Black Swan	<i>Cygnus atratus</i>	24/02/2009		2	F(N1)	Loafing in open water		
Buff-banded Rail	<i>Gallirallus philippensis</i>	24/02/2009		1	F(N1)	Foraging on lawn		
Eurasian Coot	<i>Fulica atra</i>	24/02/2009		3	F(N1)	Foraging along inlet banks		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		14	F(N1)	Foraging in shallows and loafing in open water	dabbling	
Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	24/02/2009		1	F(N1)	Overhead flying along inlet to south		
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		1	F(N1)	Loafing on stag		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		12	F(N1)	Foraging at water's edge and on lawn		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		3	F(N1)	Overhead flying along inlet		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009	8:05	1	F(N1)	Foraging in shallows		
				58				
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009	8:10	74	F(w)	Loafing in open water and on tube worm islands		
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009		2	F(w)	Foraging in marsh and shallows		

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding.
Black Swan	<i>Cygnus atratus</i>	24/02/2009			15 F(w)	Loafing on open water		
Black-winged Stilt	<i>Himantopus himantopus</i>	24/02/2009			316 F(w)	Foraging and Loafing in shallows		
Buff-banded Rail	<i>Gallirallus philippensis</i>	24/02/2009			2 F(w)	Foraging along water's edges		
Caspian Tern	<i>Sterna caspia</i>	24/02/2009			1 F(w)	Loafing on tube worm island		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009			6 F(w)	Foraging around edges		
Crested Tern	<i>Stena bergii</i>	24/02/2009			4 F(Ww)	Loafing on tube worm islands		
Curlew Sandpiper	<i>Calidris ferruginea</i>	24/02/2009			1 F(w)	Loafing on tube worm island		
						Foraging around margins and in open water		
Eurasian Coot	<i>Fulica atra</i>	24/02/2009			15 F(w)	water		
Grey Plover	<i>Pluvialis squatarola</i>	24/02/2009			6 F(w)	Foraging on tube worm islands		
						Foraging in shallows and Loafing on tube worm islands		
Grey Teal	<i>Anas gracilis</i>	24/02/2009			42 F(w)	Overhead		
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009			1 F(w)	Loafing on open water		
Musk Duck	<i>Biziura lobata</i>	24/02/2009			1 F(w)			
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009			56 F(w)	Foraging and loafing in open water	dabbling	
						Foraging around muddy edges and edges of rushes		
						Loafing in open water and on tube worm islands, foraging in open water		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009			167 F(w)			
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009	8:35		4 F(w)	Foraging in shallows		
					716			
Australian Pelican	<i>Pelecanus conspicillatus</i>	24/02/2009	8:40		5 F(N1)	Foraging at water's edge		
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009			1 F(N1)	Foraging at waters edge		
						Loafing high in eucalypt at water's edge		
Great Egret	<i>ardea alba</i>	24/02/2009			1 F(N1)	Loafing in open water		
Grey Teal	<i>Anas gracilis</i>	24/02/2009			3 F(N1)	Loafing in trees on water's edge		
Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	24/02/2009			2 F(N1)	Loafing in trees on water's edge		
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009			11 F(N1)	Loafing under grass ledge at water's edge and in open water		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009			44 F(N1)			
Purple Swamp Hen	<i>Porphrio porphrio</i>	24/02/2009			1 F(N1)	Foraging at water's edge in rushes		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009	9:00		1 F(N1)	Foraging at waters edge		
					69			
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009	9:10		156 F(s)	Foraging and loafing		
Australian White Ibis	<i>Threskiornis molucca</i>	24/02/2009			1 F(s)	Foraging in shallows		

Common Name	Scientific Name	Date	Time	No	Site	Habit	Behaviour	Breeding.
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		11	F(s)	Foraging in shallows on mud banks and at tide edge or marshland		
Common Sandpiper	<i>Actitis hypoleucos</i>	24/02/2009		1	F(s)	Foraging on mud bank		
Grey Plover	<i>Pluvialis squatarola</i>	24/02/2009		2	F(s)	Foraging along tide edge		
Grey teal	<i>Anas gracilis</i>	24/02/2009		32	F(s)	Foraging and loafing		
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		1	F(s)	Loafing on mud bank		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		11	F(s)	Foraging and Loafing		
Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	24/02/2009		5	F(s)	Overhead flying west and perched on sticks in open water		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		15	F(s)	Foraging along tide edge		
Red-necked Stint	<i>Calidris ruficollis</i>	24/02/2009		117	F(s)	Foraging along tide edge		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		152	F(s)	Loafing in shallows on north side , puddling and foraging		
Whistling Kite	<i>Haliastur sphenurus</i>	24/02/2009		3	F(s)	Hawking over open water and marshland		
Whistling Kite	<i>Haliastur sphenurus</i>	24/02/2009		2	F(s)	On the ground scavenging a bird carcass		
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009	10:00	6	F(s)	Foraging on exposed mudflat		
				515				
Australian Shelduck	<i>Tadorna tadornoides</i>	24/02/2009	10:01	12	e	Loafing around water's edge		
Black-winged Stilt	<i>Himantopus himantopus</i>	24/02/2009		500	e	Foraging in shallows		
Common Greenshank	<i>Tringa nebularia</i>	24/02/2009		46	e	Foraging in shallows		
Grey Teal	<i>Anas gracilis</i>	24/02/2009		80	e	Foraging in shallows		
Pacific Black Duck	<i>Anas superciliosa</i>	24/02/2009		420	e	Foraging in shallows		
Red-capped Plover	<i>Charadrius ruficapillus</i>	24/02/2009		198	e	Foraging on exposed mudflats at southern end and at waters edge, distraction display		dd
Red-necked Avocet	<i>Recurvirostra novaehollandia</i>	24/02/2009		60	e	Loafing in centre of main water body		
Red-necked Stint	<i>Calidris ruficollis</i>	24/02/2009		683	e	Foraging in shallows at southern end and at tide edge		
Silver Gull	<i>Larus novaehollandia</i>	24/02/2009		36	e	Foraging in shallows and loafing		
White-faced Heron	<i>Ardea novaehollandia</i>	24/02/2009		1	e	Flushed from edge of marshland		
White-fronted Chat	<i>Epthianura albifrons</i>	24/02/2009	12:30	16	e	Flushed from edge of marshland, and foraging on exposed mudflat		
				2052				
Sub total				3410				

Combined Total -Wonnerup and Vasse

3790