

# Conservation of the Blue Penguin *Eudyptula minor* on the West Coast, South Island, New Zealand.

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## West Coast Penguins; what's the problem?

- Local residents noticed a decline in the numbers of blue penguins (*Eudyptula minor*), but the evidence was anecdotal.
- No prior counts or distribution surveys, so it was impossible to determine if declines were real.
- The breeding season for the West Coast population was unknown.
- Potential threats included: introduced predators, free-roaming dogs, road-kills, land development, coastal erosion, predation by weka, fisheries bycatch and other at-sea threats.

## What have we done to address that problem?

### Raising public awareness through:

- Coverage in local papers and other media.
- 'Census days' when residents patrol their local beach and report penguins or penguin sign.
- Road shows where specialists present informal talks and workshops on penguin biology and predator control.

### Conducting surveys and research:

- Since 2005, 310 km of the 450 km long coastline has been surveyed.
- Detailed follow up surveys of those areas where penguins appeared most numerous.
- Document the penguins' breeding season and breeding success.
- Record mortality of adults and chicks on an opportunistic basis.



## What have we found?

- Colonies are mostly small, many less than 5 pairs.
- Penguins appear to be absent from large areas of apparently suitable coast.
- Only 38% of the suitable burrows in our study colonies were occupied by penguins.
- A one-season study showed breeding success was relatively high, chicks fledged from 66% of eggs laid.
- No evidence of second clutches or replacement laying when eggs were lost.
- A mean of 1.18 chicks were fledged per breeding pair.
- At least 23 adult penguins were killed on roads between Greymouth and Karamea between February 2006 and June 2007.

Figure 1. Map of the West Coast, South Island, New Zealand, showing the areas surveyed for penguins and the main penguin colonies discovered.



Table 1 Breeding success of blue penguins at various study sites in New Zealand and Australia

Location	Hatching success (%)	Fledging success (%)	Breeding success (%)	Chicks reared per pair	Reference
Bruny Is., Australia	67	24	16	0.32	Giese <i>et al.</i> 2000
Phillip Is., Australia	64	41	26	0.71	Reilly & Cullen 1981
Wellington, NZ	57	83	47	0.94	Bull 2000
Otago, NZ	63	75	47	1.6	Gales 1984
Oamaru, NZ	73	94	71	2.15	Jones 2006
West Coast, NZ	79	84	66	1.18	(this study)

Table 2 Blue penguin burrow occupancy rates at different locations in New Zealand

Location	Occupancy rate (%)	Reference
Taieri Island, New Zealand	78	Dann 1994
Oamaru Quarry, New Zealand	67	Jones 2006
Oamaru Creek, New Zealand	88	Jones 2006
West Coast, New Zealand	38	(this study)

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West Coast Blue Penguin Trust  
www.bluepenguin.org.nz

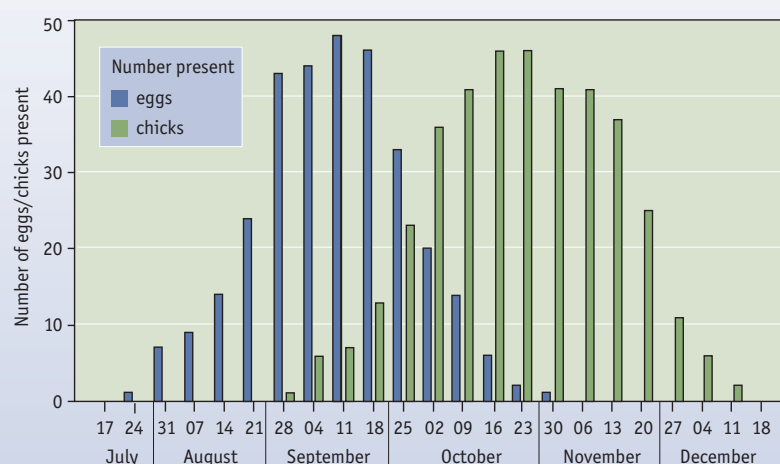


Figure 2 The number of blue penguin eggs and chicks present in study burrows between Tauranga Bay and Truman's Beach each week during the 2006-2007 breeding season

## What now?

- Produce an interactive DVD describing blue penguin biology and conservation to be distributed free to all West Coast schools in 2008. It will come with an introductory pack for teachers and parents.
- Annual monitoring of colonies between Tauranga Bay and Truman's Beach began in the 2006 breeding season.
- Colony monitoring and predator control at selected study colonies was intensified in August 2007.
- Attempt to quantify the impact of road kills and other threats.
- Extend research and colony monitoring to South Westland colonies and colonies remote from human influence in 2008.
- Band penguins to determine survival rates.

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