

Baywide Little Penguin Monitoring Program

Data Report 2

June 2008

Introduction

This report provides analysis of data collected on the body mass of Little Penguins (*Eudyptula minor*) for the Channel Deepening Project Baywide Monitoring Program, for April 2008. The data were collected at Phillip Island Nature Park using an Automated Penguin Monitoring System (APMS, Australian Antarctic Division) located in the Summerland Peninsula penguin colony, Phillip Island, as described in the detailed design for the Project (PoMC 2007). The analysis applies only to penguins weighed on entry to the colony. Where fluctuations in Little Penguin weights occur outside expected variability, further investigation will be undertaken.

Results

The raw data were filtered to remove irrelevant or spurious records. Records were removed from the raw data if they included:

- penguins leaving the colony; or
- a weight less than or equal to 700g; or
- a weight greater than or equal to 1700g.

The data was de-seasonalised (to account for known season variation in Little Penguin weight) and analysed using an Exponentially Weighted Moving Average (EWMA) control chart according to the detailed design for the project (PoMC 2007) by Emphron Informatics Pty Ltd. The result of this analysis is presented in Figure 1. Data from the preceding three months is included to provide recent historical context. There is no evidence of any reduction in de-seasonalised body weight, and all EWMA values were well above the control limit, indicating no change in average weight outside of expected variability. Ecological interpretation of all results for the period January to June 2008 will be provided in the next report in this series.

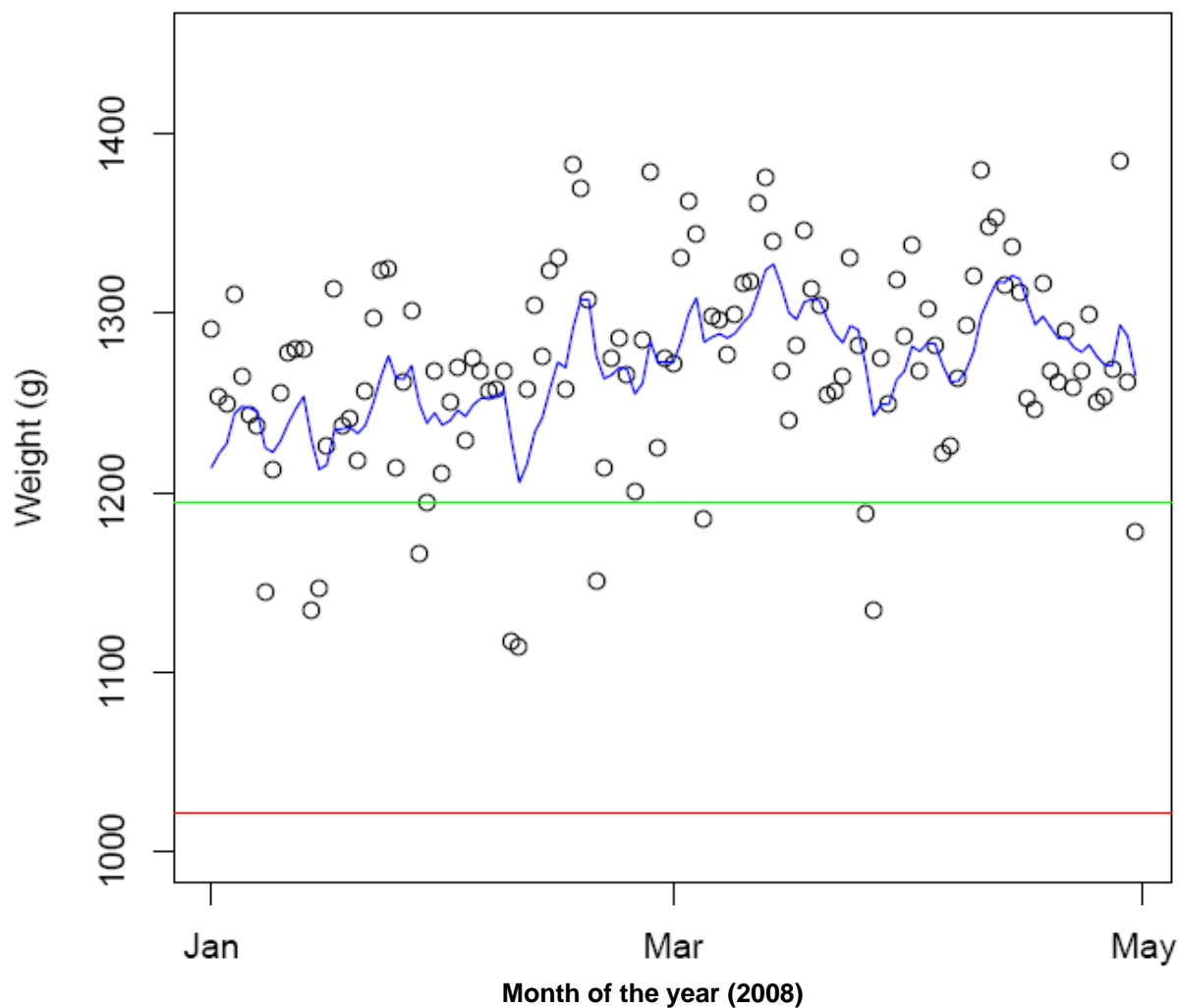


Figure 1. EWMA of de-seasonalised daily average Little Penguin weight (in grams) measured using the Automated Penguin Monitoring System at Phillip Island Nature Park, 1 January 1 to 30 April 2008 (this report relates to the April results only). The open circles indicate the mean daily weight, the blue line is the EWMA and red line indicates the control limit of 1021g (analysis prepared by Emphron Informatics Pty Ltd).

Reference

PoMC 2007. Little_Penguins_Detailed_Design CDP_ENV_PR_020. Port of Melbourne Corporation. Published on www.channelproject.com/environment/monitoring.asp

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