

**PRELIMINARY ANALYSIS OF THE DISTRIBUTION OF MALLARD AND GREY
DUCK BAND RECOVERIES FROM THE EASTERN
AND HAWKE'S BAY REGIONS**

Matthew McDougall and Andy Garrick
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Overview

Mallard and grey duck regulations are set by regional Fish and Game Councils with little or no regard to the very real possibility that the population dynamics of these species may vary not only within a region, but from one region to the next. Regulations such as length of season and daily bag limits applying to one region could therefore impact on the sustainability of populations in a neighbouring region(s) that have imposed tighter controls. Taking this argument further, it has been proposed that the management of mallard and grey populations should be based around what have been termed "Duck Management Units" (DMUs).

Some time ago staff proposed monitoring mallard and grey duck populations that live in common climatic zones. In other words, rather than monitoring the population within the arbitrary boundaries of a Fish & Game Region alone, New Zealand be divided into zones of similar temperature and precipitation and the species counted/monitored within these zones. The basis for this lies in our observation from analyses of banding data and environmental variables that survival is partly a function of climate and temperature. We strongly suspect productivity is also influenced by climate and temperature. As part of the validation process for DMUs constructed around these parameters we have been analysing band recoveries from birds banded in our provisional DMUs in the Eastern and Hawke's Bay Regions to see what proportion have been recovered in the same DMU in which they were banded, or have been recovered elsewhere. Initial results indicate that >85% of recoveries are within the same DMU that they were banded in as indicated in Figure 1.

Figure 2 provides shows the recovery locations of birds banded in either the Lower Kaituna Wildlife Management Reserve or at Waewaetutuki in relation to our provisional DMUs.

Figures 3 and 4 show the recovery locations of birds banded on the East Coast and in the Hawke's Bay Region respectively, in relation to Fish and Game regional boundaries.

Figure 1. Recoveries of mallard and grey duck banded in the Eastern and Hawke's Bay Regions. The circles show the median recovery distance for each band site. Because of the scale of the figure many of the recoveries close to the band site don't show as they are superimposed on top of each other. The solid lines are provisional duck management units (DMU's) for monitoring populations based on comparable precipitation and temperature.

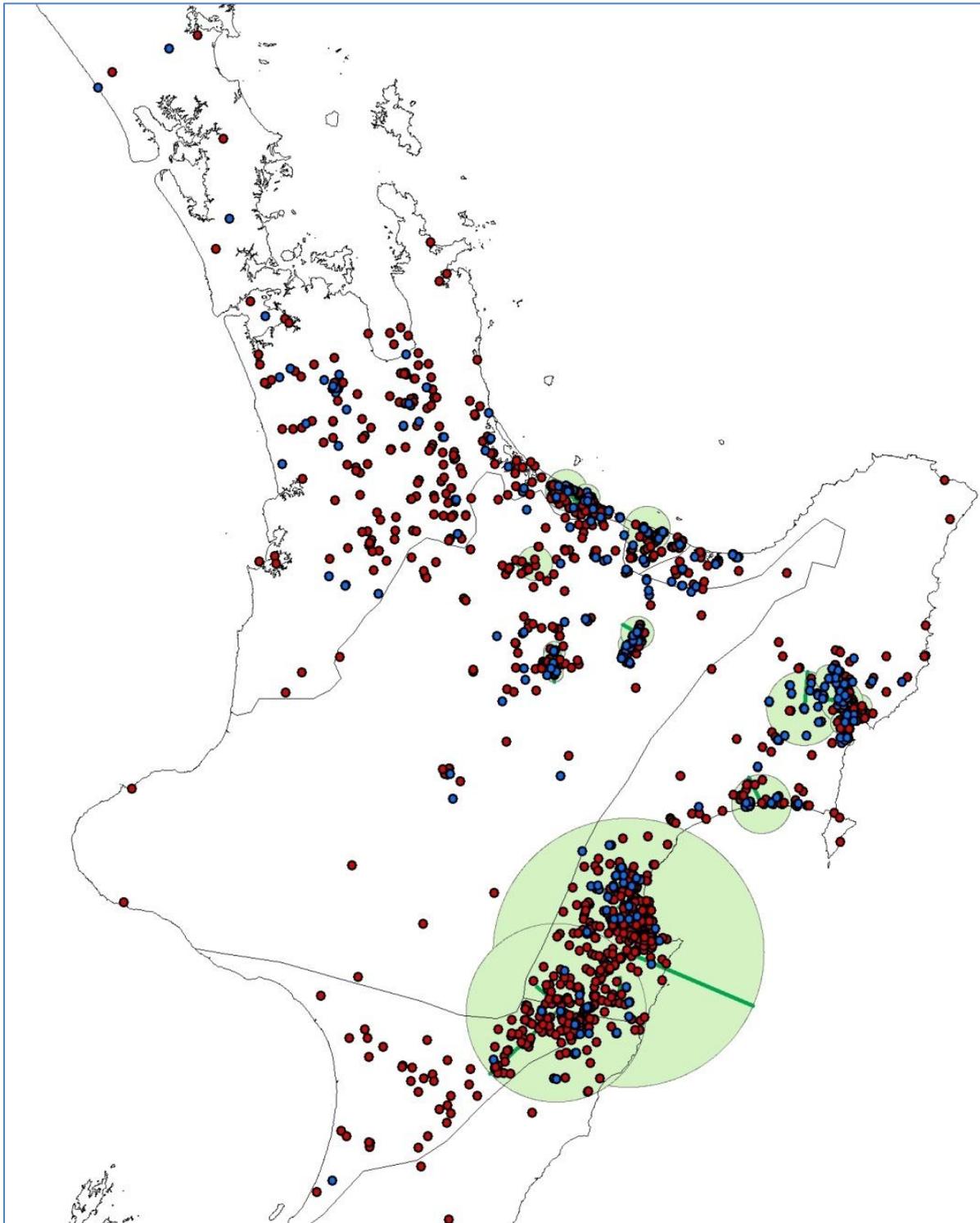


Figure 2. Recoveries from mallard and grey duck banded in Kaituna Wildlife Management Reserve and Waewaetutuki. The black lines are provisional duck management units (DMUs) and the red dots are the banding sites.

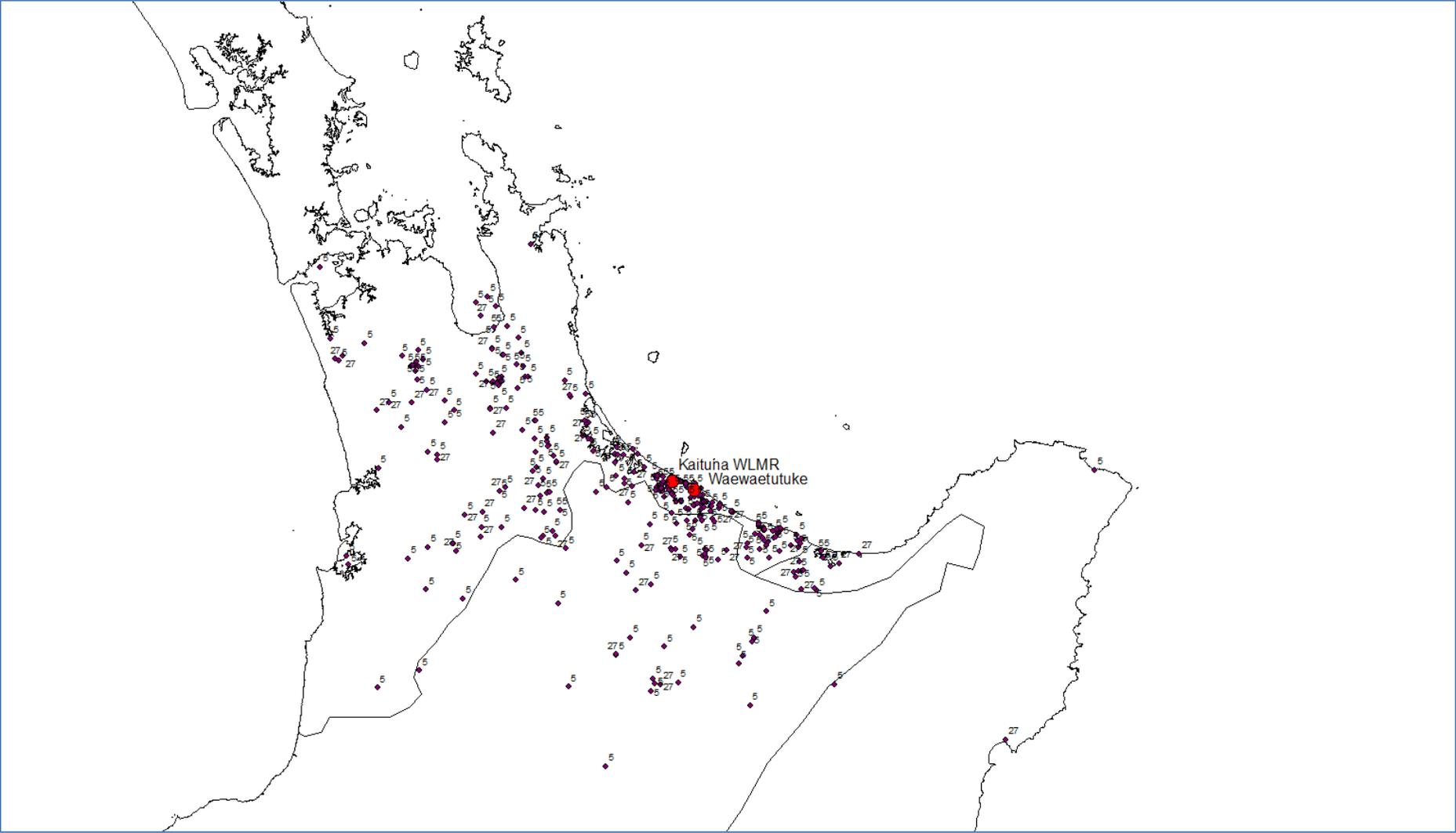


Figure 3. Recoveries from mallard and grey duck banded on the East Coast. The black lines are Fish and Game boundaries. The large red dots are the banding sites.

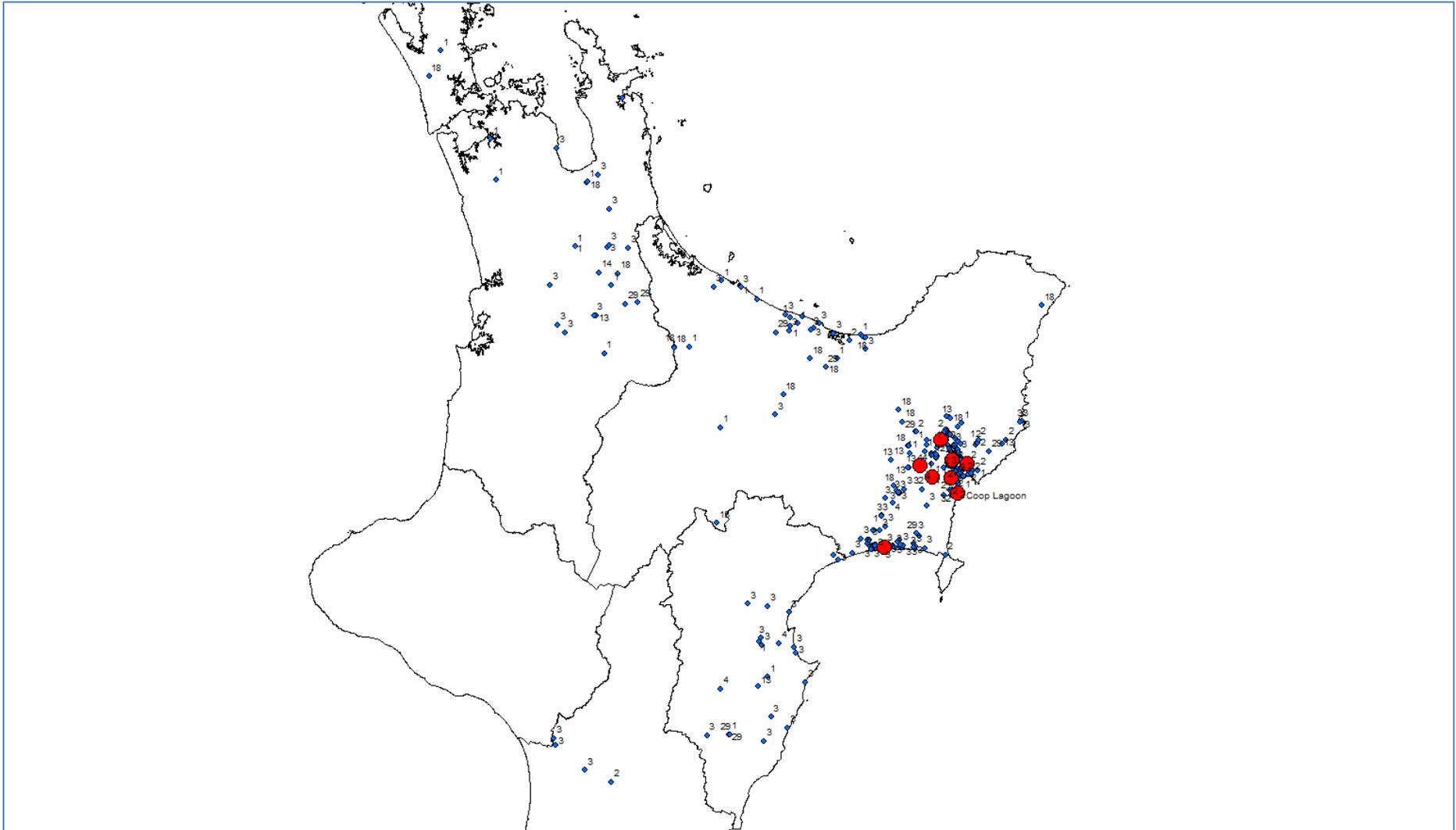


Figure 4. Recoveries from mallard and grey duck banded in the Hawke's Bay Region. The black lines are Fish and Game boundaries. The large red dots are the banding sites.

