



## Magpie monitoring survey 2009



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# **Magpie monitoring survey**

Results to Date – June 2009

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# **Contents**

<b>1.</b>	<b>Executive summary</b>	<b>7</b>
<b>2.</b>	<b>Findings</b>	<b>7</b>
<b>3.</b>	<b>Introduction</b>	<b>8</b>
<b>4.</b>	<b>Methods</b>	<b>8</b>
<b>5.</b>	<b>Results</b>	<b>9</b>
<b>6.</b>	<b>Discussion</b>	<b>11</b>
<b>7.</b>	<b>Supply of monitoring data - Terms and Conditions</b>	<b>11</b>

## 1. Executive summary

Introduced Australian magpies (*Gymnorhina hypoleuca* and *Gymnorhina tibicen*) are a Site-Led Human Health pest species under the Greater Wellington Regional Pest Management Strategy 2002-2022 (the Strategy).

The magpie population study started in 2005, at 20 sites with a specific habitat type (open country within 50m of trees) in the Wairarapa that receive no formal magpie control. The aim is to assess magpie density at these sites and track changes over time. This ongoing survey will give some insight into the population trends for territory holding magpies, as well as any long-term change in the frequency of non-territorial flocks of roaming juveniles.

This year 208 birds were recorded, 155 in territorial groups and 53 in one large flock at Springs Valley Kaituna. Refer to figure 1 and chart 1. There has been a large flock recorded at this site since 2006. The variation, shown by the confidence interval, for the average number of birds per site (excluding the large non-territorial flock) suggests a stable population. Refer to chart 2.

## 2. Findings

- The number of tribes (small breeding flocks), with between 10 and 29 birds has reduced and the number of tribes with 1 - 10 birds has increased.
- The size of the large non-territorial flock has declined since 2006.
- One site did not record magpies, a different site from last year

Figure 1 shows the total number of magpies counted each year, and the number of those occurring in large flocks of over 30 birds

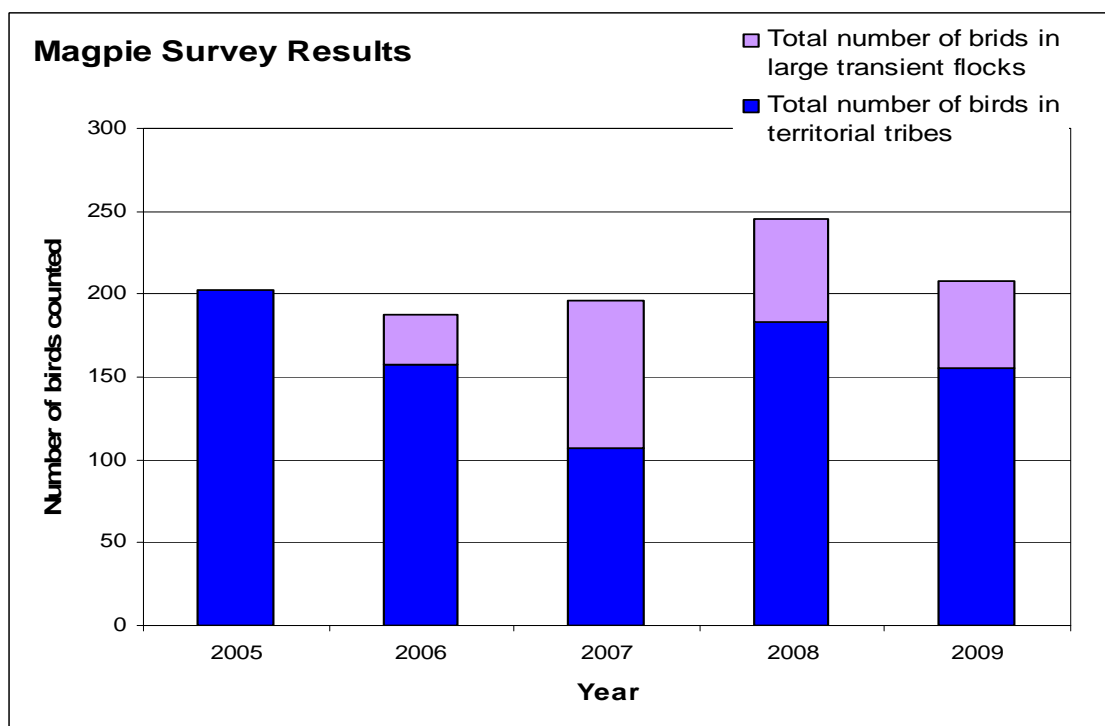
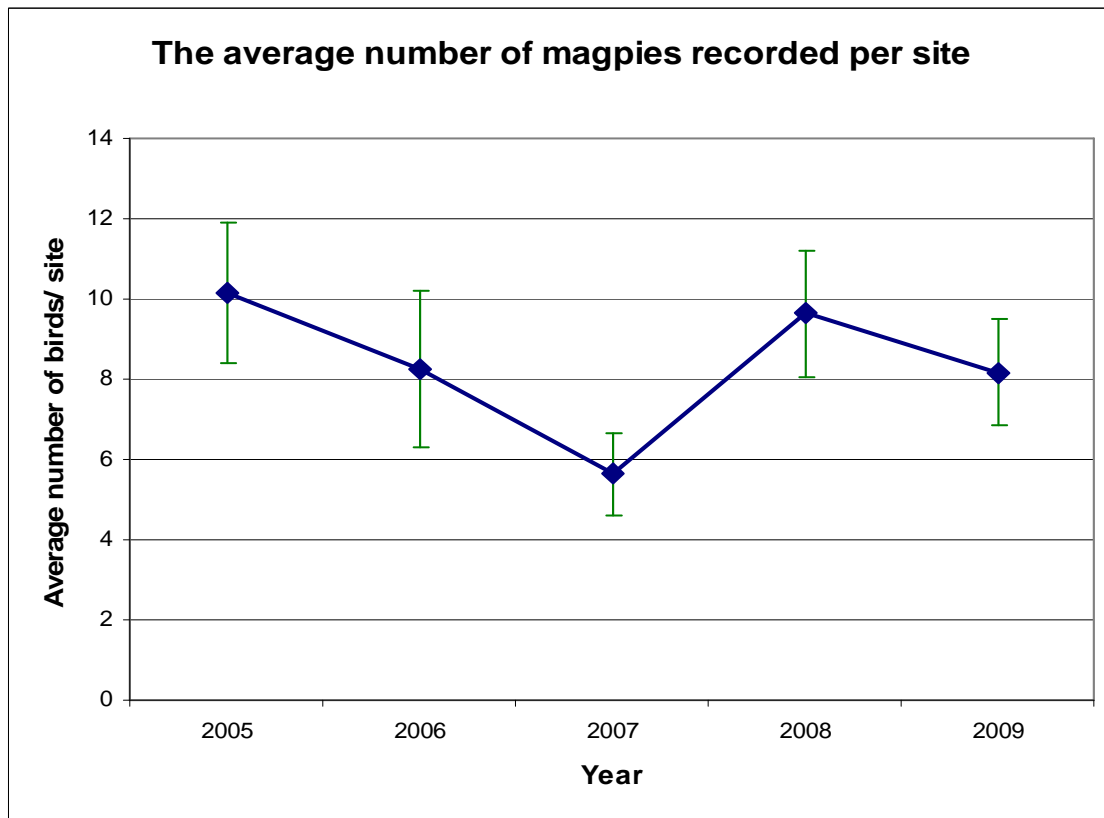


Figure 2 shows the average number of birds per site in small breeding tribes (excluding large non-territorial flocks of more than 30 birds)



### 3. Introduction

This ongoing survey aims to track changes in magpie numbers over time in the absence of formal control. This enables the Greater Wellington Regional Council (Greater Wellington) to gain knowledge about magpie population dynamics and form a knowledge base on which to build control operations in the future. The information will also assist in performing a cost benefit analysis of region wide magpie control.

### 4. Methods

Steve Playle (Biosecurity Officer Pest Animals) conducts this survey annually in May and June using Greater Wellingtons Point Distance sampling protocol. Distances to birds seen and heard are recorded to the nearest metre relative to the observer, and birds seen or heard beyond 900 metres were recorded as 900m+.

Bird counts are conducted at the same 20 randomly selected stratified points, each point has a GPS coordinate accurate to five metres. The survey points are greater than 7km apart as the average juvenile dispersal rate is approximately 7km (Baker et al. 2001).

As magpies are savannah birds and roost/nest in mature trees (Australian Museum online 2005), a specific habitat strata was selected. Survey points are no more than 50m from bush margins and are no more than 50m away from

trees. Effectively a random sample of one habitat stratum in the Wairarapa (open country within 50m of trees), therefore results can be extrapolated only for that habitat stratum, and not the entire Wairarapa.

Large groups of birds ( $\geq 30$ ) counted at one site are presumed to be non-territorial transient flocks of juvenile birds (Department of environment and climate change NSW, 2007), small flocks are presumed to be territorial familial breeding groups or tribes (Australia museum on line, 2005). The non-territorial flock is excluded from the per site average analysis primarily because of their inherent mobility, the variability of numbers in non-territorial large flocks and the statistical influence this outlier would have on the average.

## 5. Results

All data was collected from 13 May to 4 June 2009.

<b>Total number of sites</b>	<b>20</b> 19 sites had small territorial groups 1 site had a large non-territorial juvenile flock
<b>Total number of birds counted</b>	<b>208</b> 155 in small territorial groups 53 in large non-territorial flock
<b>Average distance to observer</b>	<b>513m</b>
<b>Number of birds in large flock:</b>	
- Site 2009	11
- Site 2008	11
<b>Number of birds in flock in 2009</b>	53
<b>Number of birds in flock in 2008</b>	62

Figure 3 shows the frequency of flock/tribe sizes encountered for each year

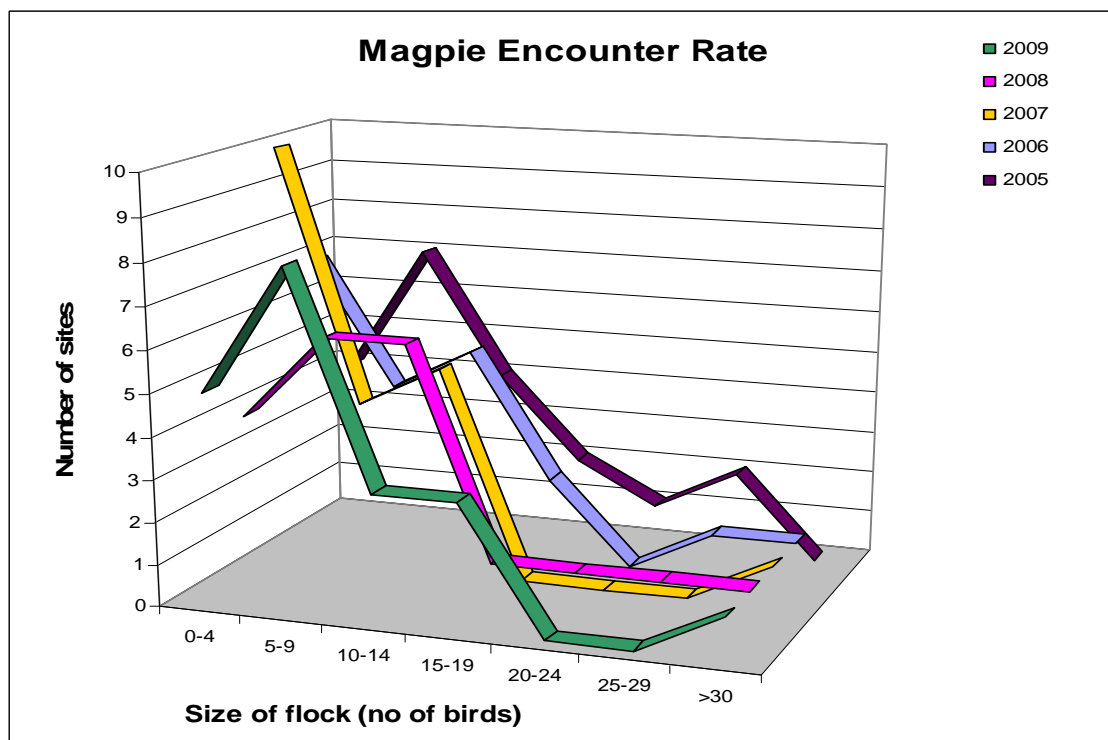
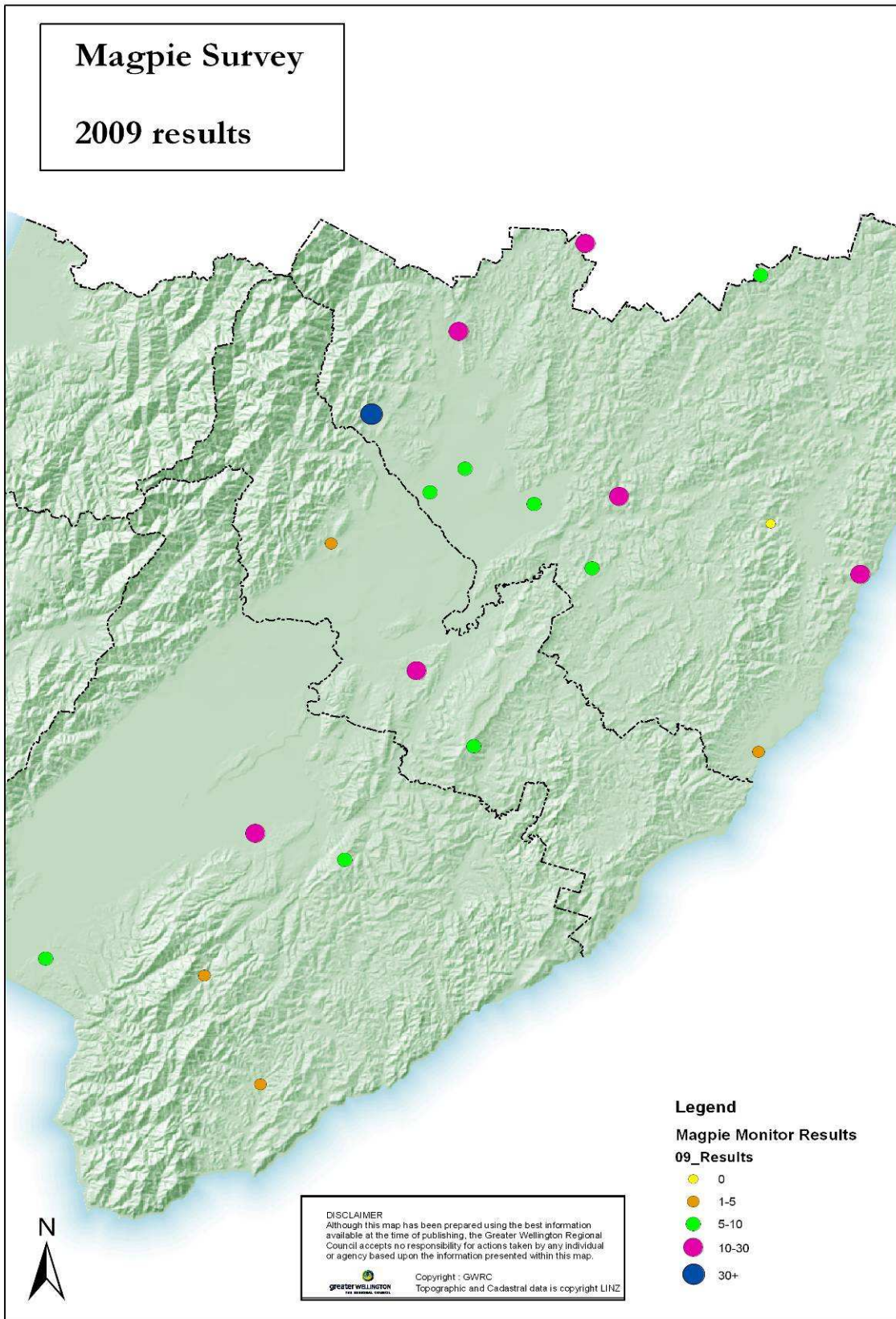




Figure 4 maps the spatial distribution of tribe/ flock sizes in the Wairarapa



## **6. Discussion**

Results indicate magpies are regionally widespread and although numbers fluctuate, the population size appears relatively stable.

The total number of magpies counted has reduced from the recorded high last year. The average number of birds in breeding tribes has decreased but not significantly.

This year one site did not have any birds recorded, a different site recorded no birds in the 2008 survey. The numbers of birds in the large non-territorial flock has reduced each year since 2007, dropping from 89 in 2007, to 53 in 2009. There were much less sites with between 10 to 30 birds present this year and more with 1 to 10 birds.

The same site 11, Spring's Valley/Kaituna, has hosted a large flock (30 or more birds) since 2006 when the large flock was first recorded. It is possible that this flock is a large transitory flock consisting of juvenile birds. This site may not be suitable for breeding tribes or there may be another reason that large numbers of birds congregate at that site. The site obviously supports a large number of birds.

In 2006, site 11 recorded exactly 30 birds, flocks with between 20 to 29 birds occurred regularly and although the figure of 30 is suggested as indicative of a non-territorial flock of non-breeding juveniles (Department of environment and climate change NSW, 2007), this is an Australian statistic and breeding tribes could be larger in New Zealand. Since 2007, the large flock has included 50 more birds, significantly larger than the breeding tribes, and very likely to be non-territorial juvenile birds.

## **7. Supply of monitoring data - Terms and Conditions**

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Date: 15 June 2009

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