

**The following statement was written by Dr Maj de Poorter, project manager of Ark in the Park from 2008 - 2012. It reflects on the Hihi reintroduction attempt which was still underway when written.**

Low Hihi numbers at Ark in the Park are disappointing, but in spite of that many lessons for the survival of the species have already been learned.

Our ongoing monitoring efforts have unfortunately detected only very low numbers of hihi in the Ark area this summer, with 5 males present. One female (from the 2008 release) who reproduced successfully last year was also observed initially. – but then has not been seen lately. This is a dramatic fall in the numbers compared to last year when there were 19 adults, 13 nests and more than 25 fledglings. Its extremely disappointing, and similar events have happened at other sites where hihi re-introductions been started in the past. With reintroductions in general (various species) it is not unusual that several attempts are required before an ongoing population establishes itself. The reintroduction of hihi to the Ark in the Park was always known to have an experimental element to it – the Ark is the only site with hihi where a predator controlled site is surrounded by good hihi habitat that is not predator controlled and that may act as a sink to “lure” hihi away. This is very different from hihi on offshore islands or even hihi in areas of bush surrounded by farmland. Results such as at the Ark allow everyone to learn valuable lessons for the overall long term survival of hihi in New Zealand.

There will not be a top-up translocation to the Ark at the end of summer this season, because with limited numbers of hihi available each year, the national priorities of the hihi recovery group were to make those birds available to other sites instead.

The low numbers this season, in spite of a successful breeding season last year are probably due to a combination of:

- Female exhaustion (for example, one female last year had one failed nesting attempt and then 3 successful attempts resulting in at least 11 fledglings, after which she was observed in a “worn out” state of appearance.
- High feral cat numbers in the Ark at the end of last season (Robin were also badly affected last year). Especially fledgling and juvenile hihi may have been impacted. This issue has been addressed in the present season by being able to deploy kill traps as well as live traps.
- Unusually cold October 2009 temperatures
- Dispersal away from the Ark area into areas with much lesser or no predator control
- Stochasticity associated with low numbers (with small numbers, random events may also cause the numbers to go down drastically without a particular ecological “cause” – simply through statistical flukes).

Things that we have already learned from the Ark re-introduction include:

- Hard release (where birds are not kept in an aviary first) provide a better chance of long term survival than soft releases.
- Of the 5 males observed this season 2 are from the February 2007 release (hence in their third summer season in the Ark), 2 from the 2008 release (in their summer breeding season), and one unbanded, presumed fledged last year. This confirms that hihi can survive several years in the Ark habitat.
- We also know of at least a few hihi that are likely around outside the Ark. At least one pair of hihi can be considered as confirmed to the south west and observations also suggest hihi presence in a few other areas outside the Ark. Moreover, one of the males from 2008 release who had a successful breeding season last year and has been observed again this season alternates between Ark and a site on Kitewaho road (2.5 km) away and outside the Ark - and has done so successfully for almost two years. This confirms that individuals can survive outside the pest controlled area and

that individuals that disperse outside the core area can also come back, and hence should not always be considered "lost" to the population.

- Hihi at Ark in the Park all used natural nest cavities in kauri, which hadn't been recorded ever before. They were also recorded using a wider range of natural foods, including from plant species not previously recorded for hihi.
- Hole breeding introduced species such as rosella or mynah can cause disturbance to nesting hihi, and they need to be managed at least near the nest sites.
- This is consistent with the prediction that if a population can be established, it is likely to be eventually self sufficient - not requiring ongoing management with nest boxes or artificial food and trying to get the establishment of a new population through repeated translocation attempts remains a worthwhile effort for the long term survival of hihi as a species.